Lived Scarcity, Social Attitudes and Political Behaviour in Kenya

Evidence from Afrobarometer Round 5

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COMPULSORY DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

Signature:_____ Date:_____

In this thesis I examine the causal linkages between natural resource scarcity and violence. In contrast to previous research, I posit that scarcity is an inherently personal experience, and thus argue that the consequences of scarcity too, should be empirically tested at the individual level. The available literature has heavily relied on macro-level aggregate data, often producing inconclusive findings on the exact causality between scarcity and violence. Based on the theoretical work by Thomas Homer- Dixon, I apply micro- level household survey data in a multi- stage structural equation model to test the effect of people's social and political perceptions and attitudes on the linkage between scarcity and violence. I find both direct and indirect significant linkages between respondents' experienced scarcity ('lived scarcity') and their propensity to use violence. I find that the indirect effect on violence is explained by decreases in policy satisfaction, political trust and state legitimacy, and increases of more positive attitudes towards violence. From this, I suggest that experienced scarcity is 'politicized' by respondents as a policy failure, rather than being perceived as exogenous to the political system. My analysis supports the relevance of conditional meso- level factors, and finds strong differences between moderator groups regarding their propensity to use violence. While I find that the highest levels of use of violence in Kenya are driven by political competition, rather than ethnic competition, my path models clearly demonstrate that experienced food scarcity is a significant root cause of this violence through its effect on how people 'politicize' the experience of scarcity. Overall, the models suggest that the effects of scarcity are more complex than previously acknowledged. The risk of violence should thus not be estimated only through direct effects between scarcity and violence, but the risk should be understood in terms of both immediate, direct effects, and mid- and long- term, indirect effects such as decreased levels of political trust, lower perceptions of state legitimacy and more accepting attitudes towards violence.

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1. Introduction

The political success or failure of managing a country's natural resources can 'make or break' a state. Whether as a source of revenue, producer of energy or driver of growth and employment, the ways in which a state is able to manage and thrive from its natural resources are a key determinant of stable, prosperous and peaceful societies, states and international regions. This has been a recurring theme in past and present policy making and academia alike, and will most likely feature even more prominently in the future, as we witness a simultaneous increase in demand for and decrease in supply of, many of the world's most sought after natural resources.

In this thesis I analyse the linkages between peoples' personal experience of scarcity and their propensity to use violence. I test the case of Kenya using household survey data collected for 2010- 2011. Research has suggested a possible causal linkage between natural resources and international and domestic violence and conflict. While popular debate on the issue is broad and plentiful[1], rarely is a clear cut answer to be found in academia in general[2], and concerning Kenya in particular[3] to how exactly this linkage works. Much current debate, both public and academic, departs from the narrative of climate change as the cause for the surfacing of the linkage between natural resources and conflict.[4] While the effects of climate change are undoubtedly of current and future significance, this thesis will not place emphasis on the role of climate change. In this thesis I address natural resource scarcity, rather than natural resource abundance as a cause of violence, and moreover limit my analysis to renewable, rather than non-renewable natural resources.[5] Unlike previous research on this topic, I use a measure of 'experienced' scarcity, rather than aggregated or attributed scarcity. In particular, I examine the levels of access Kenyans enjoy to food and water. While 'food' as such is not a natural resource and can include any

[1] See Gleditsch (2012)
[2] See Collier & Hoeffler (1998), Reno (1995, 1997), Gleditsch (1998), Berdal & Malone (2000), Klare (2001), Humphreys (2003, 2005), Ross (2004), Nel & Righarts (2008), Brückner (2010), Meierding (2013), Koubi et al. (2014)
[3] Witsenburg & Adano (2009), Kumssa et al. (2009)
[4] For an overview of literature examining in particular the role of climate change on the linkage between environmental resource availability and conflict see: Brown et al. (2007) Buhaug et al. (2008), Salehyan (2008), Bernauer et al (2012), Gleditsch (2012), Scheffran et al.(2012), Slettebak (2012), Meierding (2013) and Dell et al. (2013)
[5] In the course of this thesis the term ´scarcity' will refer to scarcity of renewable natural resources, unless otherwise stated. For an excellent overview of the origins of the resource abundance and violence literature see Sachs & Warner (2001)

range of goods, I believe that measuring scarcity at the point of consumption (experienced scarcity) rather than at the point of production (aggregated/ attributed scarcity) allows for the testing of immediate linkages between an individual's experienced scarcity and that individual's attitudes and behaviour which may presuppose violence. Such micro- level modelling may prove key in furthering a more detailed and condition- sensitive understanding of the linkage and help explain some of the conflicting or incompatible findings in the literature today. In my design I follow Koubi et al. (2014), who suggest that "[a]fter all, individuals are affected by resource scarcity or abundance, and it is they who ultimately decide to participate in a rebellion".[6] I thus believe that the use violence is ultimately an inherently individual decision and so too should likely predictors of violence be tested at the individual level.

Following this approach my three research questions are:

1. Do people who report having gone without food or water report significantly different levels of use of violence than people who reported not having gone without food or water?
2. Does going without food or water have a direct impact on people's propensity to use violence, or is people's willingness to use violence indirectly mediated by social and political attitudes?[7]
3. Do the proposed direct and indirect causal relations between experienced scarcity and use of violence hold for all respondents, or are the proposed relations dependent upon respondent- specific meso- level factors, such as ethnicity, political representation and place of living?

This thesis is structured as follows. In Chapter 2 I provide an overview of the current academic debate on this issue. I begin by presenting the empirical findings for Kenya, before looking at the effects of mediating and conditional factors to the relation between resources scarcity and violence, as suggested in the literature to date. I then proceed by examining

[6] Koubi et al. (2014, p. 237). Also see Deligiannis (2012)
[7] This question follows from Levy's (1995) critique of Homer-Dixon's initial model. Levy writes: "By the time one arrives at the end of the causal chain (violent conflict), so many intervening variables have been added that it is difficult to see the independent contribution of environmental degradation" Levy (1995, p. 45). Also see Barnett & Adger (2007), Nordas & Gleditsch (2007) Deligiannis (2012), Hendrix & Salehyan (2012), all taken from Meierding (2013, p. 194), Hsiang & Burke (2014).

the theoretical work undertaken by Thomas Homer- Dixon. Homer- Dixon's work is especially useful in the analysis of the possible causality between scarcity and violence, as it provides a stringent and testable framework for both qualitative and quantitative investigation. From the theoretical work of Homer- Dixon, I discuss limitations that characterize many of the empirical findings in the relevant field today. Acknowledging these perceived limitations I present a conceptual model in which I theoretically link experienced scarcity with violence through a multi- stage, causal, path model. To test this conceptual model, I propose a number of hypotheses which incrementally explain the linkage between scarcity and violence through a range of secondary factors.

I conclude Chapter 2 by introducing my research design, case selection and operationalization in detail. I discuss the independent, dependent, secondary, control and moderator variables chosen for analysis.

In Chapter 3 I conduct my analysis. I proceed in four steps. First I test the hypotheses in sequential models for the full sample. These models are referred to as 'initial models'. Second I derive a 'revised model' from the initial models which I then compare to the conceptual model to assess the validity of my conceptual model. Following this comparison I subject the revised model to a series of moderation tests in Section 3.3. These models test the validity of the revised model under specific conditions. I test the role of moderator variables by comparing the performance of the revised model for sub- samples which I group based on conditional factors such as ethnic group size, place of living and political representation. Fourth, I introduce additional variables aimed at helping to explain possible difference found in Section 3.3. I conclude Chapter 3 by testing for possible 'interview- effects'. Such effects, it has been shown, may cause respondents to answer survey questions differently during the interview than they would otherwise. I test for the effects of whether the respondent and interviewer share a common home language and whether the respondents thinks the interview is being conducted by a governmental representative or not.

In Chapter 4 I discuss the findings of Chapter 3 and provide preliminary answers to the three central research question posed above. Moreover I allude to possible practical implications of my findings and summarize central limitations of my design, empirical analysis and findings.

2. Literature Review

This chapter is divided into five sections. In the first section I examine the current body of research for the case of Kenya on the linkage between environmental resource scarcity and the use of violence, before presenting an overview of work undertaken examining the role of conditional factors. In the second section I proceed in presenting Homer- Dixon's theoretical framework linking scarcity and violence. The third section addresses the conceptual and technical limitations in this field of research today. As I elaborate, much of the research has been limited in explanatory power due to simplistic and deterministic models as well as due to data limitations, and has hence failed to trace in more detail the causes of violence and conflict and more importantly non- violence and non- conflict. The fourth section of this chapter presents the conceptual model and operationalization of the model.

The chapter closes by presenting a set of hypotheses to be tested in this thesis. These hypotheses result from the perceived gap in the current literature and help answering the overarching questions posed in the introduction.

2.1 Resources and Violence: Kenyan and Global Findings

Previous research has pointed towards Kenya's history of scarcity induced violence although studies have differed in terms of which resources produce which forms of violence and whether such linkages are possibly mediated or moderated by further, unobserved, factors. Research has suggested linkages between both scarcity and abundance of resources and violence. Dietz (1987) and Mkutu (2008) link drought and pastoral violence, while Kahl (2006), examining violence in election years, finds competition over farmland as an influencing factor on violence. Theisen (2012) using a disaggregated longitudinal (1989- 2004) approach, contrarily, finds a positive relation between rainfall and violence and emphasises the role of population density as a moderating factor. Detges (2014) supports Theisen's (2012) finding, and for the case of Northern Kenya argues that the relation between rainfall and violence is explained through pastoralist violence and violence surrounding access to replenished wells during rainfall periods. Congruently, Theisen (2012) also finds no support for the influence of farmland availability on violence, lending support to conflict being more closely tied to use

rather than ownership of resources. Meier et al (2007) find a higher vegetation cover to be associated with an increase in violence in Kenya for the years 2004 and 2005, while Hendrix and Salehyan (2012), in a cross-national study of 47 African countries between 1990 and 2009, find a curvilinear relationship between rainfall and violence, with extreme positive and negative variations from the average rainfall being most strongly related to instances of violence and conflict. This is supported by Raleigh and Kniveton (2012) who find that stronger deviations in rainfall are more strongly associated with violence. They further find that drier years are more closely linked to civil conflict while overly wet years are more closely linked to non-state conflict.[8] On the whole, Rustad and Binningsbo (2012), find that sub-Saharan Africa has seen more '[n]atural resource conflicts' from 1946 to 2006 than any other region in the world[9]. Moreover, Homer-Dixon (1999) argues that the developing world is especially at risk of scarcity induced conflicts as such "poor countries start at a disadvantage: many are underendowed with the social institutions[…], efficient markets, and capable states-that are necessary for an ample supply of both social and technical solutions to scarcity".[10]

Research has also pointed to the possibly indirect effect of scarcity on conflict and the role of conditional factors. Adano et al (2012) , for the examples of the Marsabit and Narok areas in Kenya, find that social institutions, such as informal pastoral arrangements and "hybrid customary- cum- legal"[11] dispute settlement mechanisms, can have a mediating effect on the relation between resource abundance or scarcity and violence. They also point to the violence enhancing effects of conditional factors such as border areas due to disputed or unclear judicial responsibility or remoteness in general due to weaker government and security presence to deter violence or persecute violators.[12] Evidence presented by Hendrix and Haggard (2015) in a study of 49 Asian and African cities between 1961 and 2010 suggests the possible indirect relation between scarcity and violence through volatile food prices and price shocks, thereby elaborating and expanding on Smith (2014) who emphasizes the violent potential of food price shocks in urban

[8] Raleigh & Kniveton (2012)
[9] Rustad & Binningsbo (2012), see also Wucherpfennig et al. (2012) and Harbom & Wallensteen (2007)
[10] Homer-Dixon (1999, p. 108)
[11] Adano et al. (2012, p. 77)
[12] Adano et al. (2012)

African areas between 1990 and 2012.[13] Hendrix and Haggard (2015) also point to the influence of regime type and political institutions on the relation between scarcity and violence through food prices.[14]

The effect of resource scarcity on violence however can also be 'intentionally mediated' by policy decisions. Boone (2011), in an analysis of electoral violence in Kenya in 1991 and 1992, concludes that selective allocation of land rights by politicians directly contributed to violence during and after the election period.[15] Kahl (2008), as Boone (2011), finds that elites in periods of scarcity may manipulate state policy in their favor and thereby actively contribute to violence through selective exclusion.[16] Kahl (2008) and Boone's (2011) findings correspond to what Homer-Dixon (1999) classifies as 'structural scarcity', the intentional, 'engineered' exclusion of parts of society from resources.[17]

2.2 Resources and Violence: A theoretical approach

It becomes apparent that much of the findings presented under the summative title of 'resource conflict' differ considerably in what they actually measure as a 'resource' and what they posit such measure to predict or influence. Research remains conflicting as to what types of resources are more closely aligned to types, intensities and durations of and resolutions to conflicts and how these are causally linked.[18]

While the effects of resource availability have been closely examined by studies from the economic disciplines, such studies have commonly provided limited insight into the 'human element' of causality between resources and conflict.[19] Recurring arguments of resources fostering rentier- states or allowing rebel leaders to challenge the central government moreover apply exclusively to conditions of an abundance of non-renewable resources such as oil, gas or precious metals and minerals. Conditions of scarcity are rarely observed by such studies. The social sciences, apt at furthering insight into the 'human' element, have however thus far been limited by weak work on theorizing the nexus of interest. Much of this

[13] Smith (2014)
[14] Hendrix & Haggard (2015)
[15] Boone (2011)
[16] Kahl (2008), taken from Koubi et al. (2014, p.228)
[17] See following section
[18] See Ross (2004), Collier et al. (2004) and Koubi et al. (2014) for an overview of major studies on the relation between resources and conflict
[19] Note that by 'human element' I mean humans having an impact on the effect of resource availability on violence and conflict, not humans being affected by resource availability's effect on violence.

limitation, I argue, is caused by limited available data at the sub- national level.

Before turning to a criticism of the work in this field, the following sub-section outlines the theoretical work undertaken by Thomas Homer- Dixon and the 'Toronto School' during the 1990s. The work by Homer- Dixon is particularly useful in furthering the empirical study at lower levels of analysis as it is conceptually not tied to the state level and thus allows for a 'scaling up' and 'scaling down' within a singular model. Homer- Dixon's model provides a rare instance in which the relevance of attitudes and individual's behaviour are accounted for. While the model has found limited use in studies since, I argue this is largely due to the limited availability of data at the individual level for regions of interest. An empirical re-visit of Homer- Dixon's model using such data is thus needed to determine the usefulness of Homer- Dixon's conceptual arguments and model.

Homer-Dixon (1999) begins by noting that in order to understand the linkage between resource scarcity and conflict it is necessary to distinguish different forms of natural resource scarcity. He proposes a threefold distinction of the sources of 'environmental scarcity'.[20] First, 'supply- induced scarcity', which is commonly a result of degradation or depletion of a resource. Available economic theories of conflict and scarcity heavily emphasize this link.[21] Second, 'demand-induced scarcity' results from an increase in demand for a resource. Changes in demography and consumption patterns are commonly named as causal factors underlying such scarcity. Demand-induced scarcity finds great prominence in 'Malthusian' writing on the topic. Proponents of the dooming 'Malthusian catastrophe' see demographic causes as most threatening to both resource quantity and resource management and thus a trigger for conflict. While Malthusian ideas have been widely echoed, Gleditsch and Urdal (2002) find that such narrative can succumb to "sensationalism", such as the work of Robert D. Kaplan, and "doomsday predictions", such as the writings of Paul R. Ehrlich and Anne H. Ehrlich.[22] Homer- Dixon himself speaks of a neo-Malthusian "alarmist story about human destruction of the planet's

[20] 'Environmental scarcity' is a rather broad term as the following sections will examine. Homer-Dixon (1999, p.48) explains that "The term *environmental scarcity* […] allows us to incorporate in one analysis the three distinct sources of scarcity and to study how they interact with and reinforce each other". I will use the term 'environmental scarcity' within Homer-Dixon's understanding, without continuously pointing to the threefold distinction Homer-Dixon makes

[21] See Bretthauer (2015) for an overview

[22] Gleditsch & Urdal (2002, p. 2)

ecosystem".[23] Nonetheless demography, lacking Malthusian determinism, has found its recognition as contributing factor on the linkages between resources and conflict in contemporary research.[24]

Third, 'structural scarcity', which can be described as 'engineered' or 'produced' scarcity. Such form of scarcity, as Gleditsch and Urdal (2002) state, "applies only to certain groups who, relative to other groups, are excluded from equal access to particular resources" and does "not presuppose actual scarcity if the resource were to be distributed evenly".[25] This form of scarcity is not dependent upon the existence of supply- or demand- induced scarcity but is based on political decisions and intentional exclusion.

As demonstrated above, research remains ambiguous to how the availability of resources, relative to other factors, can cause violence or conflict. Competing arguments point towards a range of underlying causal factors triggering conflict while resources or a lack thereof are commonly linked as a catalyst for conflict.[26] In many studies however, conditional and secondary variables were not included in the empirical analysis. A growing number of scholars has criticized this research design, indicating an increasing recognition of the importance of conditional factors. A prominent example are the studies by Collier and Hoeffler (1998, 2002). The studies have been criticized as relying too heavily on a selective data set and the established correlations being exclusive to the categorization of resource and conflict variables. Subsequent studies applying differing data sets and categorization of variables have found conflicting links.[27] Ross (2004) further notes that Collier and Hoeffler (1998, 2002) studies may be spurious as underlying variables affecting both the dependent (conflict) and independent variable (ratio primary exports/ GDP), such as Rule of Law and Property Rights, were not addressed in the models. Ross (2004) points out that such limitation is common in most studies on the issue, as availability is limited over countries and time.[28] Growing evidence points towards resource scarcity not being

[23] Homer- Dixon (1999, p. 42)
[24]See Bächler (1999), Homer-Dixon & Blitt (1999) for a literature overview of demographic factors linked to resource induced conflict; see Goldstone (2001), Weiner & Russell (2001), and Weiner & Teitelbaum (2001) for an overview of the broader research linking demography with security in general. See Kahl (1998) for an analysis of demography as a constraint on Kenyan renewable resource supply and a cause of violence between 1991 and 1993
[25]Gleditsch & Urdal (2002, p. 2)
[26]See Ross (2004)
[27] see Fearon & Laitlin (2003), Hegre (2002), Elbadawi & Sambanis (2002)
[28] Ross (2004, p. 338)

a *direct* predictor of conflict or only in interaction with further factors.[29] Findings suggest that scarcity primarily fosters proximate causes of conflict, such as political exclusion, low levels of accountability, lack of ethnic inclusion or high prospect returns on controlling resource rich localized areas.[30]

Homer-Dixon builds on such secondary causes of violence and proposes an indirect, two- tier model linking resource scarcity and violence. In his model changes in renewable natural resource availability, such as water, cropland or forests, influence mediating 'social effects' which in turn can produce violence or conflict. Rather than arguing population pressure and environmental degradation being a direct determinant of violence or conflict, Homer- Dixon asserts a close interrelationship between demographic, environmental, social and political factors in determining violence and conflict.

In 'Environment, Scarcity, and Violence' (1999), Homer-Dixon summarizes his research on the effects of natural resource scarcity and concludes that resource scarcity is likely to produce five social effects. These are: 1) "constrained agricultural productivity, often in ecologically marginal regions"; 2) "constrained economic productivity, mainly affecting people who are highly dependent on environmental resources and who are ecologically and economically marginal"; 3) "migration of the affected people in search of better lives"; 4) "greater segmentation of society, usually along existing ethnic cleavages; and 5) disruption of institutions, especially the state".[31] These effects can "either singly or in combination, substantially increase […] the probability of violence in developing countries".[32]

Homer-Dixon moreover suggests a causality between these 'social effects'. He explains that scarcity induces constrained agricultural and economic productivity, poverty and migration and these "are likely to strengthen the segmentation around already existing religious, class, ethnic or linguistic cleavages in a society".[33] Homer-Dixon

[29]Gleditsch & Urdal (2002) , Ross (2004)
[30]See Fearon & Laitlin (2003), Collier & Hoeffler (2004), Ross (2004)
[31]Homer-Dixon (1999, p. 80)
[32]Homer-Dixon (1999, p. 80)
[33]A conceptual weakness in Homer-Dixon's model is its' insufficient analysis of the notion of 'pre-existing segmentation'. While, as described in later sections of this paper, 'ingenuity' of a society, essentially its ability to adapt to changes in resource availability, is seen as a mechanism that 'breaks' or weakens the links between resource scarcity, social effects and conflict, factors influencing the existence or non-existence of such 'pre-existing segmentation' is not addressed or critically included in the models.

argues that these cleavages increase competition for access to scarce resources, which could cause sustained periods of tensions between competing groups within society. These tensions in turn would further "reduce […] the interaction between such segments and makes non-violent articulations of interest less likely". Homer-Dixon's (1999) notion of competitions is based on Homer-Dixon and Percival (1996) and Percival and Homer- Dixon (1998) who explain that in conditions of environmental scarcity, distinctions between "winners and losers" are sharpened, "competition between groups for control of resources critical to survival and prosperity" is encouraged, and "resource-dependent groups [are encouraged] to turn inward to focus on narrow survival strategies".[34] This logic borrows from the theory of relative deprivation. Such relative deprivation arises from a perceived 'gap' between people's expected outcomes and people's actual outcomes.[35] However, it is well established that relative deprivation rarely suffices as a predictor of conflict. As Gleditsch and Urdal (2002) state, "the deprivation hypothesis significantly over predicts the likelihood that violent conflict may occur from grievances" and that "[the deprivation hypothesis] proves insufficient in explaining the incidence of such events".[36] Homer-Dixon and Blitt (1998), in an expansion of Homer-Dixon's original causal model[37], therefore presume the necessary presence of two other factors for grievances to lead to conflict.[38] First, "the aggrieved individuals must participate in some sort of collective capable of violent action against the authorities, such as ethnicity, religion and class. People must also feel the relevance of their group identity to their grievances- that they are aggrieved as a group". And second, the "political structure must fail to give these groups the opportunity to express their grievances peacefully at the same time as it offers them opening for violent action".[39] Homer-Dixon further states that the experience of scarcity- induced segmentation can erode civil society[40], further decreasing the ability of society to

[34]All taken from Homer-Dixon (1999, p. 96)
[35]Ted Robert Gurr examined 'relative deprivation' as a determinant and motivator for civil unrest and violence. For more detail on relative deprivation and Gurr's findings see: Gurr & Leggewie (1970)
[36] Gleditsch & Urdal (2002, p. 3)
[37]The 'original' Model refers to the initial causal model outlined in the International Security article by Homer-Dixon in 1991. Homer-Dixon has since reworked and evolved the model, either conceptually or through the experience from application to Case Models (This continuous evolution of the causal mechanisms especially has been the basis for considerable criticism of Homer-Dixon's model as well as applied methodology). The model was significantly furthered in: Homer-Dixon & Blitt (1998): 'Ecoviolence: Links among Environment, Scarcity, and Violence' as well as Homer-Dixon (1999): 'Environment, Scarcity and Conflict'. This thesis will build on the model outlined in both Homer-Dixon & Blitt (1998) and Homer-Dixon (1999).
[38]Homer-Dixon & Blitt (1998,p. 11)
[39]Homer-Dixon & Blitt (1998, p. 11), taken from Gleditsch & Urdal (2002,p. 3)
[40]Civil Society is defined by Homer-Dixon as "the dense network of nonstate associations and organizations (including religious groups, community- service organizations, and [...] political parties) that mediates between the individual and the state" (Homer-Dixon (1999, p. 96))

"articulate effectively its demands on the state".[41] Societal segmentation may also, Homer-Dixon continues, reduce "the density of *social capital*-- the trust, networks, and norms of reciprocity generated by vigorous, crosscutting exchange among groups".[42] Homer-Dixon concludes that the social effects evoked by environmental scarcity "are likely to tear the fabric of legitimized, accepted, and authoritative institutions that guide and pattern social behavior".[43]

2.3 A Bridge over Troubled Waters: Why so much explains so little (thus far)

The study of natural resource scarcity as a source of or catalyst for conflict has shown a number of limitations which are likely to contribute to the opposing or incoherent findings outlined in Chapter 2.1, and the lack of robust, case-transcendent theoretical models in the literature today. In the following section of this chapter I address both conceptual and technical causes of these limitations.

2.3.1 Conceptually

Conceptually previous research in this field has been limited due to three main shortcomings. First, too little emphasis has been placed on the importance of attitudes as a pre-condition and determinant of behavior. Studies have created 'black- box' scenarios where experience (scarcity) leads to behavior (violence and conflict) without accounting for attitudes. Second, studies have fallen short in examining perceptions, i.e. how people actually experience and thus react to scarcity. Scarcity induced by a natural disaster is likely to result in very different reactions than scarcity induced by political mismanagement or vested private interests in a commodity. Third, previous studies have posited too little emphasis on the two- fold causal 'chain', linking scarcity and conflict as suggested by Homer- Dixon. Despite acknowledging Homer- Dixon's model, many studies have tested only direct effects of scarcity on violence or conflict[44]

[41]Homer-Dixon (1999, p. 96)
[42]Homer-Dixon (1999, p. 96)
[43]Homer-Dixon (1999,p. 98)
[44] Despite his own model, Homer- Dixon has been accused of much of what I am criticizing others following in his steps for. Homer- Dixon

and have thereby failed to test intermediary factors in the model in partial and incremental models. Such partial testing of Homer- Dixon's model could have furthered the understanding of causality and pointed to important factors moderating the validity of his model. However, I argue that the failure to develop causal models, on the whole is a result of limited available data, especially at lower levels of measurement.

2.3.2 Technically

Previous studies have suffered from limited data availability resulting in issues regarding level of analysis, the coding of dependent variables and the testing of conditional meso- level factors.[45]

Studies have heavily relied on national level approximate or aggregate data[46] which has constrained the understanding of the link in question.[47] By developing models and operationalising variables based on national aggregate data, the level of analysis and frequency of measurement were constrained to event data and have thus failed to test low-level causalities and explanations.

Level of analysis has been criticized by Deligiannis (2012), who finds that "the impacts of scarcities are not inherently or exclusively felt at the state level. Scarcities initially affect individuals, families, and communities personally and directly, before translated into broader state or societal effects".[48] Deligiannis further states that the "state- level bias in case-study research leads to local processes of environmental scarcities and their local social effects being understudied and inadequately understood".[49] Such "disaggregated approach", argues Meierding (2013), would allow for a "much more accurate assessment of causal mechanisms that emphasize localized resource scarcity or the impacts of localized physical

(1999) relies on case studies as means of elaborating and 'testing' (I chose to use the inverted comas around testing, as Homer- Dixon does not provide his boundaries for non- acceptance, neither do his case studies include the possibility of the null-hypothesis being proven) his theory. Gleditsch & Urdal (2002), based on King, Keohane and Verba (1994) have accused Homer- Dixon of such 'dependent variable' led case selection. Homer- Dixon and his associates (Schwartz & Deligiannis; Homer- Dixon 2001) have since refined their initial work and "acknowledge[d] that they cannot say anything about the causal effects, but argue that biased case selection aids in identifying causal mechanisms" (taken from: Binningsbo et al. (2007, p. 340)).

[45] See Meierding (2013) and Koubi et al. (2014) for an overview of technical criticism of much of the work in the resource- conflict nexus

[46] For primary studies below the state-level see: Meier et al. (2007), Raleigh & Urdal (2007), Theisen et al. (2011), Benjaminsen et al. (2012), Raleigh & Kniveton (2012), Busby et al. (2012), O'Loughlin et al. (2012)

[47] See Nordas & Gleditsch (2007) and Raleigh & Kniveton (2012)

[48] Deligiannis (2012,p. 84)

[49] Deligiannis (2012,p. 84)

phenomena".[50] In her critique of findings regarding the linkages between scarcity and violence, Meierding (2013) notes that many relevant studies have failed to include control variables, such as differentiation of urban and rural settings[51], and thus run "a high risk of omitted variable bias".[52]

Moreover, commonly used binary event data is poor in explaining cases of non-events. Understanding such occurrences of non-events could point to mitigating factors in people's decision making and to 'critical' junctures within such decision making that trigger or prevent active participation or violent action.[53] As an example, the Social Conflict in Africa Database (SCAD) which contains information on "over 7200 instances of protests, riots, strikes, government repression, communal violence, and other forms of unrest for 47 African Countries from 1990- 2010"[54] has undoubtedly furthered the disaggregation of available quantitative data in terms of distinguishing various forms of conflict, especially lower threshold forms of violence, such as protests and mobs. However, SCAD remains dependent on the event based operationalization of violence. For Kenya, Salehyan et al. (2012) code the 2007 post- electoral violence as a single event. They state that such singular coding was only undertaken if the "issues, actors, and targets were the same and there was significant momentum linking these periods".[55] While an understandable coding decision, it exemplifies the shortcomings inherent to event based (even highly localized) coding.[56] For the case of Kenyan post-electoral violence in 2007, the observable outcome may have been comparable or similar across locations, however the relative effect of moderating variables resulting in the observed behavior and intensity may have differed considerably. While I acknowledge the operational limitations of any method of data collection, the case of SCAD exemplifies the necessity to link and combine various forms of data when addressing the issue of scarcity and conflict.

[50] Meierding (2013, p. 190). The notion of incorrect modelling of direct causes raised by Meierding is shared by numerous recent works. For a critical overview see Meierding (2013, pp. 187-189).
[51] For exceptions see : de Soysa et al. (1999), Mehlum et al. (2006), Yeeles (2015), Reuveny (2007), Scheffran et al. (2012)
[52] Meierding (2013,p. 189)
[53] see Deligiannis (2012)
[54] Salehyan et al. (2012,p. 503)
[55] Salehyan et al. (2012,p. 507)
[56] See Harari &La Ferrara (2013) who construct a 1° grid over all of Africa (1960-2010). While this method utilizes a localized approach, the data remains event data broken into local grids without testing localized conditional influences.

2.4 Describing a Forest, not just a lot of Trees

In this section I present two conceptual ways in which my research design deviates from previously applied research design. These deviations are motivated by the outlined limitations of previous research, and the availability of Afrobarometer household survey data which is untested in this field to date. Moreover I propose a conceptual model which causally links scarcity with violence, and is reflected in my hypotheses.

I seek to answer the three questions presented in the introduction using an empirical model at the individual level. Through this approach I assess whether the application of household survey data allows for a more precise testing of Homer-Dixon's stepwise model. Using individual level data also allows me to contrast for groups based on meso- level characteristics.[57] This enables me to draw more finely the causal linkages between scarcity and violence and highlight groups that are most likely to commit scarcity-induced violence. I am able to differentiate findings based not only on national or local levels, but also based on socio- economic, ethnic and socio- political distinctions.

My applied research design deviates from previous research in the resource-conflict nexus in two conceptual ways. First, I define and measure scarcity at the point of consumption, not production. This follows in parts the logic of 'securitization' and the work of the Copenhagen School.[58] 'Securitization' emphasizes that an issue is not relevant in a security context unless someone 'perceives' it to be relevant- thereby 'securitizing' the issue. I transfer this logic to the analysis of scarcity and violence by arguing that, for instance, a drought (scarcity at point of production) might affect people's consumption patterns (scarcity at point of consumption), it might however not. There is no direct *imperative* relation.[59] Thus assuming a behavioural reaction may be elusive and could explain the weak empirical evidence found in work based on scarcity

[57] Raleigh & Kniveton (2012) argue that "limited availability of subnational data for socioeconomic conditions and sociopolitical institutions" is the "greatest methodological obstacle" towards more 'disaggregated approaches' ((Raleigh & Kniveton 2012) taken from Meierding (2013, p.190))

[58] See Buzan & Waever (2003)

[59] This approach is not entirely new to this field of research. Tony Allan (2011) argues that conflict over water arises unexpectedly rarely as states are able to mitigate the negative effect of sudden or continued water shortages by substituting water intense crops or products with imported crops or products. Allan thereby asserts that a localized scarcity of a resource might not necessarily impact people locally as their needs may be met through imported water intense crops or products. Whether or not this explanation holds for developing states in which people and markets are more likely to depend on local produce and are not able to access global markets to mitigate the negative effects of scarcity is not evident and requires further critical analysis.

measured at the point of 'production'. Contrarily, measuring scarcity at the point of consumption ensures that scarcity directly impacts the individual and will more likely affect a person's attitudes and behaviour. The possibility of measurement at the point of consumption is unique to the use of household level data and further underlines the value of analysis at lower levels. Throughout the thesis I therefore use 'Experienced Food Scarcity or 'Experienced Water Scarcity as a measure of 'individualized' scarcity at the point of consumption.[60] As the notion of 'securitization' might be more closely tied to state or system levels of analysis, I choose to refer to the process by which individuals perceive and react to experienced scarcity as 'politicization'. I thus define 'politicization' in this thesis as: 'The process by which a person's experience changes the person's perceptions, attitudes and behaviours towards the political system as a whole and towards incumbents within or affiliated with the political system'.

Second, I posit that the politicization of scarcity follows similar causal paths as policy and service delivery failure. Homer-Dixon and Blitt explain that 'social effects' (such as institutional instability and societal segmentation) are causally linked with environmental scarcity through a decline in trust and a 'tear' in the societal fabric. Astoundingly, the empirical testing of the step- wise *behaviourist* linkages between scarcity and 'social effects', and between 'social effects' and violence is rudimentary, if not non-existent. By conceptualizing the experience of scarcity as a policy or service delivery failure I am able to draw from a broader body of literature addressing the linkages between performance- driven political trust, regime legitimacy and violence. In addition I am able to model the relation between scarcity and violence as a series of intermediary linkages between scarcity, policy satisfaction, political trust, state legitimacy and violence. My design thereby follows Gleditsch and Urdal's (2002) recommendation of incremental step-wise testing and furthering of models, rather than the construction of 'catch all' models which are often ill equipped to measure the step- wise causality suggested by Homer- Dixon. Gleditsch and Urdal state that "[w]e may ask whether such a high degree of [model] complexity is necessary. Can we account significantly better for violence with twenty- five variables than with

[60] See Variable section in Chapter 4 for a technical description of this variable. This operationalization of scarcity is influenced by Mattes (2008) notion of 'Lived Poverty'. 'Lived Poverty' is a measure of poverty based on individual assessments of poverty, rather than approximate or aggregate measure often used in economic literature. I thus transfer the notion of Lived Poverty rather than attributed poverty to resource scarcity.

five? We have no way of knowing, because these models are not built incrementally […] they do not draw upon a long history of theory development and empirical testing for each of these links. We would have preferred to start from the other end and build the models incrementally based on empirical testing of a very basic theoretical model".[61] I apply multivariate structural equation modeling and use household survey data to incrementally test causal linkages before I introduce conditional and mediating factors and test their relative importance on the linkages.

In order to answer the posed questions I build a conceptual model which informs my set of hypotheses. As I use path analysis to test my hypotheses, it is important to define a limited theoretical model prior to the analysis.[62] Defining a conceptual model a priori, helps me avoid 'catch- all' models and ensures that the conceptual soundness of the empirical models. The hypotheses thus reflect individual linkages within the conceptual model which enables me to incrementally build a significant causal model which is referred to as the 'revised' model.

In the conceptual model I suggest both direct and indirect linkages between experienced scarcity and the use of violence by respondents. Regarding the indirect linkages I propose that experienced scarcity is foremost 'politicized' by respondents as a failure of service delivery by the government. I argue that this perceived failure will increase sentiments of political alienation and inter-communal mistrust, and will decrease legal obedience and civil- mindedness among respondents.[63] This in turn will foster more accepting attitudes to violence and increase active violent behavior.

The conceptual model begins with Homer- Dixon's work, acknowledging the indirect and sequential step- wise relation between resource scarcity and conflict. As outlined above, I use independent variables that measure scarcity at the point of consumption, not 'production'. These variables hence do not distinguish between Homer- Dixon's three forms of scarcity. The conceptual model displays both direct and indirect effects between experienced scarcity and violence. The direct effects are expected to be positive as those who experience higher levels of scarcity are expected to be more

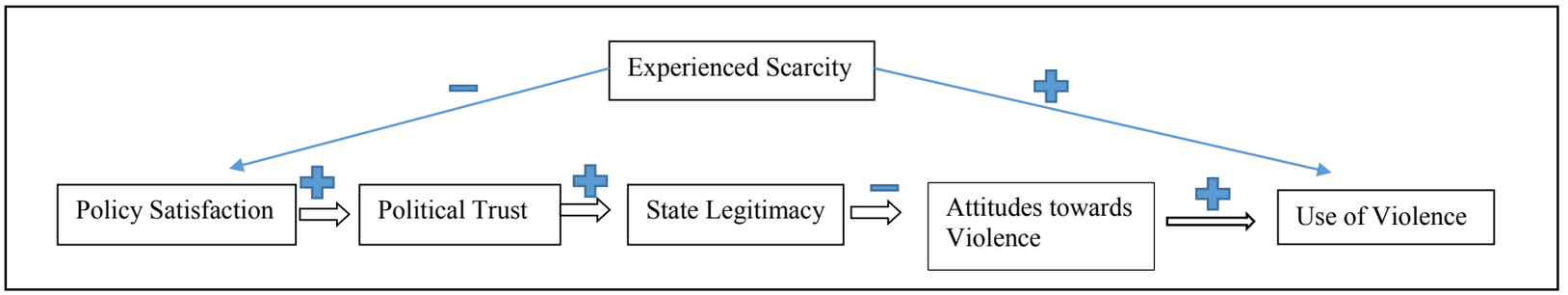
[61] Gleditsch & Urdal (2002,p. 6)

[62] By 'limited' model I mean a model that is only composed of variables based on theoretical considerations prior to testing. Once I have built a conclusive model (revised model) I will then test additional variables which might be relevant for specific sub- samples and use moderator groups to contrast differences between moderator groups.

[63] Political trust and attributed legitimacy as a function of government efficiency and performance is outlined by Bratton et al. (2005). Also see Hutchison & Johnson (2011)

likely to display violent behavior as they perceive possible gains to be higher and relative costs of violence to be lower. I include intermediary variables to causally link experienced scarcity with violence. These intermediary (or 'secondary') variables draw from both Homer- Dixon's 'social effects', as well as from variables suggested by research on relative deprivation, institutional trust, regime legitimacy and attitudes towards violence

Figure 2.1: Conceptual model for direct and indirect effects linking experienced scarcity and use of violence (Note that effects between intermediary variables, mediation and moderation effects are not included in the model).



I argue that experienced scarcity has a direct negative effect on policy satisfaction which itself has a positive effect on levels of political trust. Higher levels of political trust supports respondent's perceptions of state legitimacy, which produces more negative attitudes towards violence and lowers people's propensity to use violence. This expected relation follows a body of literature on the linkages of government performance, political trust and regime legitimacy. Political trust is achieved by meeting citizens' functional expectations towards the state, such as service delivery and institutional efficiency.[64] It has been argued that the linkage between policy satisfaction and political trust is especially strong in Africa, where tangible outcomes rather than abstract ideals or normative considerations influence people's attitudes towards the state. It has been shown that political trust is a key determinant of regime legitimacy[65] which in turn is necessary for stable and peaceful democratic governance. This is because legitimate regimes are more able to mediate competing societal demands and ensure compliance to a reached agreement.[66] A decline of regime legitimacy, however, opens opportunities for opposition group mobilization, violent government challenge and defection from

[64] For an overview see Hutchison & Johnson (2011)
[65] See Newton (2007)
[66] See Walter (2002) , Hartzell & Hoddie (2001, 2003), Hoddie & Hartzell (2005); all taken from : Hutchison & Johnson (2011)

previously met agreements, often resulting in violence or conflict[67], an outcome especially prevalent in Africa.[68]

2.5 Hypotheses

The perceived limitations in the literature motivated me to deviate from the research design commonly applied in the available literature in three ways. First, I apply individual level household survey data rather than national level aggregate or approximate data. Second, I operationalize scarcity at the point of consumption (experienced scarcity), not at the point of production. And third, I posit that scarcity is politicized by respondents' in a similar way as service failure, regardless of whether scarcity is supply-, demand- or structurally induced. The conceptual model described in the previous section reflects these decisions. In this section I derive a set of hypotheses from the conceptual model, which are tested in incrementally expanding models in the following chapter. In doing so I incrementally test from the most basic model to the most complex model from which I then derive a significant causal model- the 'revised model'.

Beginning with the most basic hypothesis, the hypotheses are ordered to increase in complexity. The first hypothesis thus tests the argument of direct causality between scarcity and violence or conflict criticised by Homer- Dixon:

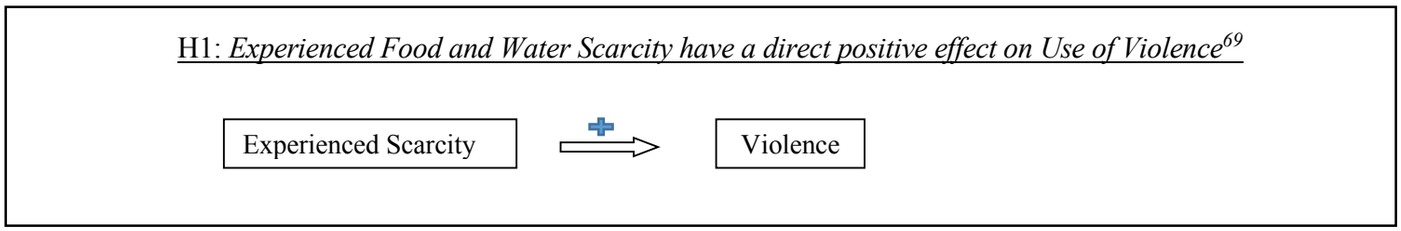


Figure 2.2: Conceptual model of Hypothesis 1

I then expand the initial hypothesis to encompass Homer- Dixon's 'societal segmentation'. In my analysis I use respondents' reported trust in members of other communities as a proxy for societal segmentation. I argue that low levels of inter-communal trust are a valid proxy for high levels of segmentation.[70]

[67] See Hutchison & Johnson (2011)
[68] See Bates (2008), taken from Hutchison & Johnson (2011)
[69] Throughout this thesis I model the relative effect size of the predicted or measured effects as the thickness in the depicted arrows in the path diagrams. This depiction is only approximate and not an accurate reflection of the effect size
[70] See Section 2.6.3 for a description of all variables used in the analysis

Figure 2.3: Conceptual model of Hypothesis 2

The second hypotheses poses that, first, there exists both a direct and an indirect effect, and second, that the mediation effect through societal segmentation is positive.

Expanding on Homer- Dixon, I model the effect of experienced scarcity to be similar to the effect of perceived quality of service delivery. I argue that such experience indirectly has an effect on state legitimacy by decreasing levels of political trust in leaders. To test this argument I propose two hypotheses. The first hypothesis regards the feasibility of framing experienced scarcity as a policy issue:

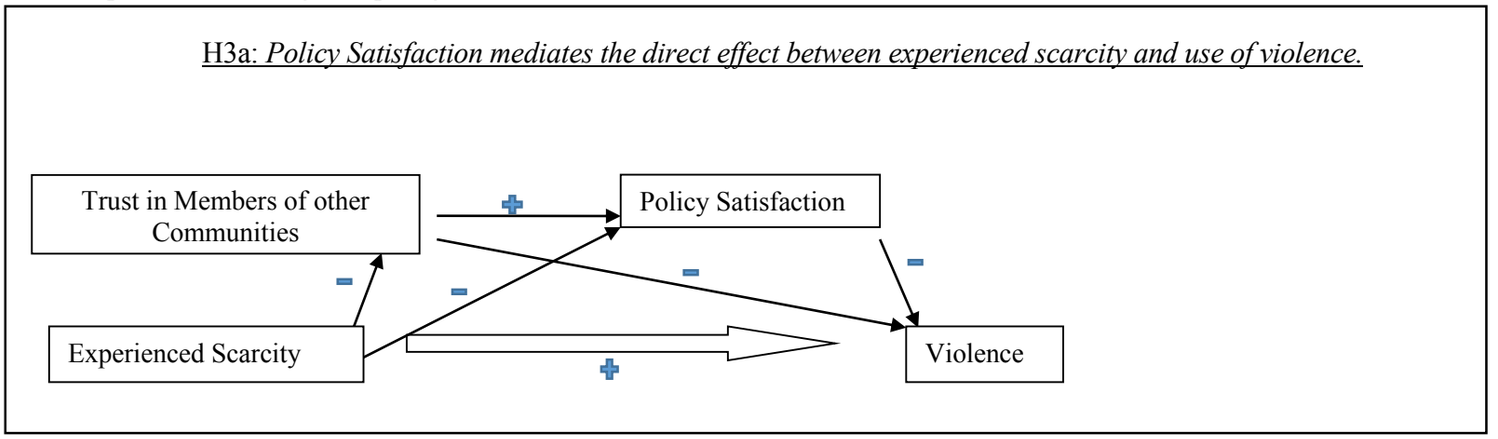


Figure 2.4: Conceptual model of Hypothesis 3a.

Figure 2.5 displays the proposed conceptual model for Hypothesis 3a. I expect direct positive effects between experienced scarcity and violence, and between inter- communal trust and policy satisfaction. I expect direct negative effects between experienced scarcity and inter-communal trust, between experienced scarcity and policy satisfaction, between inter-communal trust and violence, and between policy satisfaction and violence. I therefore argue that high levels of inter-

communal trust and policy satisfaction deter the use of violence. Both inter-communal trust and policy satisfaction however, are likely to be undermined (negative direct effect) by experienced scarcity, which also directly increases the use of violence.

The second hypothesis builds on Hypothesis 3a by testing the mediating effect of state legitimacy on the relation between policy satisfaction and use of violence.

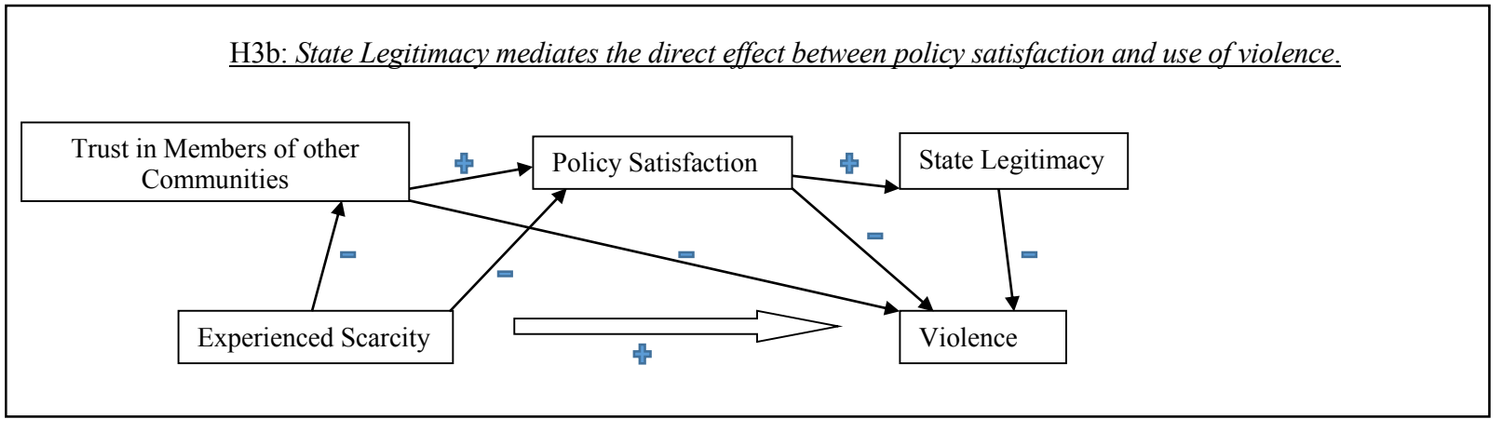


Figure 2.5: Conceptual model of Hypothesis 3b.

Similarly to Figure 2.5, I predict a positive direct effect and both positive and negative indirect effects on the use of violence. I have included state legitimacy as a mediator between policy satisfaction and use of violence. I argue that while policy satisfaction has a direct negative effect on use of violence, policy satisfaction partially also informs respondents' overall perception of state legitimacy.

In a second step, the linkage between policy satisfaction and state legitimacy is refined in Hypothesis 3c (Figure 2.7). I argue such relation is mediated by political trust, which may derive from a broader basis than policy satisfaction alone.

H3c: *The direct effect of Policy Satisfaction on State Legitimacy is mediated by Trust in elected officials.*

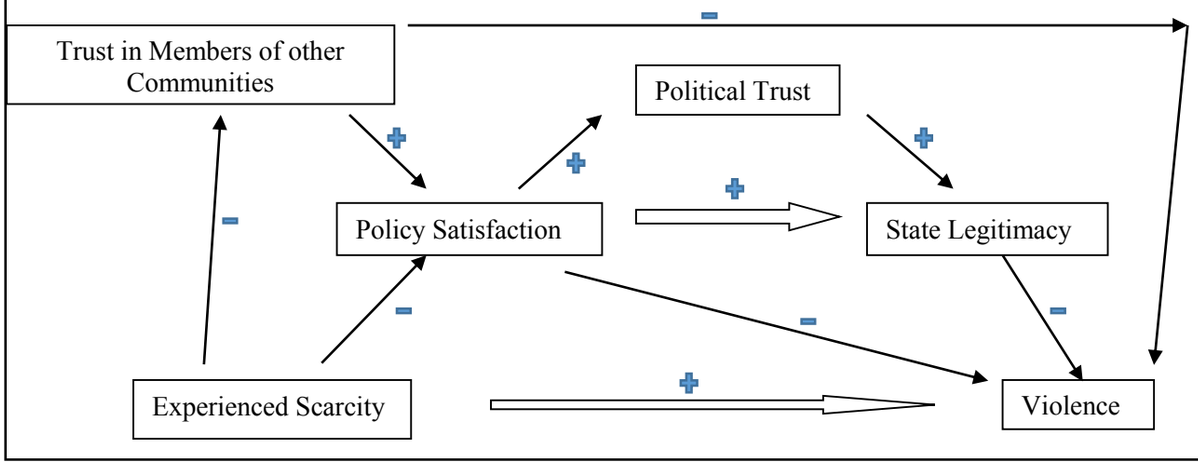


Figure 2.6: Conceptual model of Hypothesis 3c.

Hypotheses 3a, 3b and 3c form the core empirical testing of my research design of modelling the effect of experienced scarcity's on violent behaviour as an indirect path though people's policy satisfaction, political trust and perceptions of state legitimacy.

As I outlined in the previous section, much work in the field today has ignored the role of attitudes as a precondition to behaviour. To address this limitation I include 'attitudes towards violence'. I posit that more positive attitudes towards violence causally precede the use of violence.

H4: The direct and indirect effects on use of violence are partially mediated by attitudes towards violence.

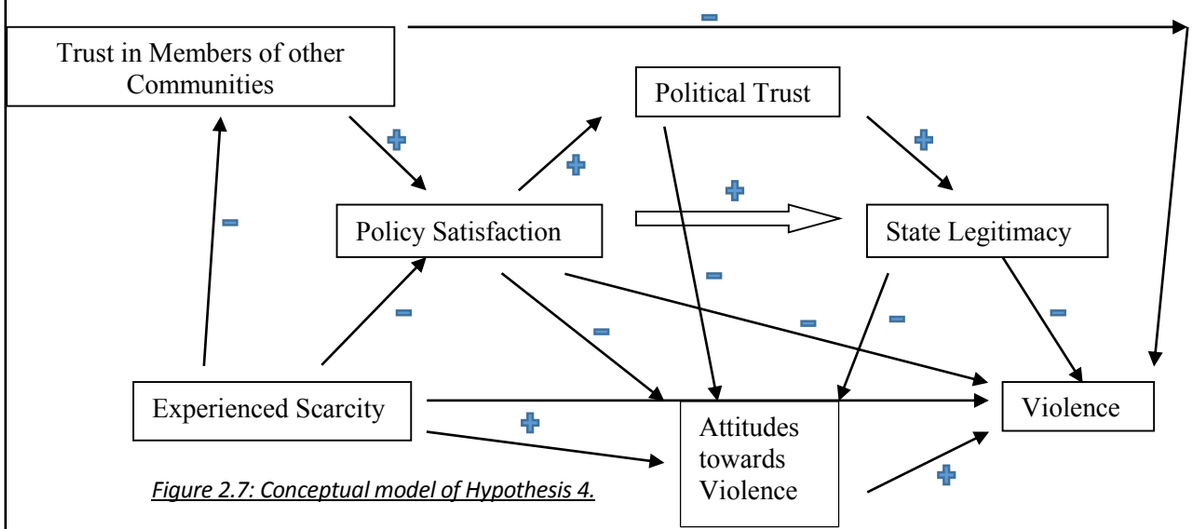


Figure 2.7: Conceptual model of Hypothesis 4.

A final hypothesis tests the overall explanatory value of framing experienced scarcity as a policy issue and thus making conflict more likely through its impact on trust and legitimacy.

H5: Once Violence is modelled as a function of inter-communal trust, policy satisfaction, political trust and state legitimacy, the direct effect of experienced scarcity on use of violence is fully mediated.

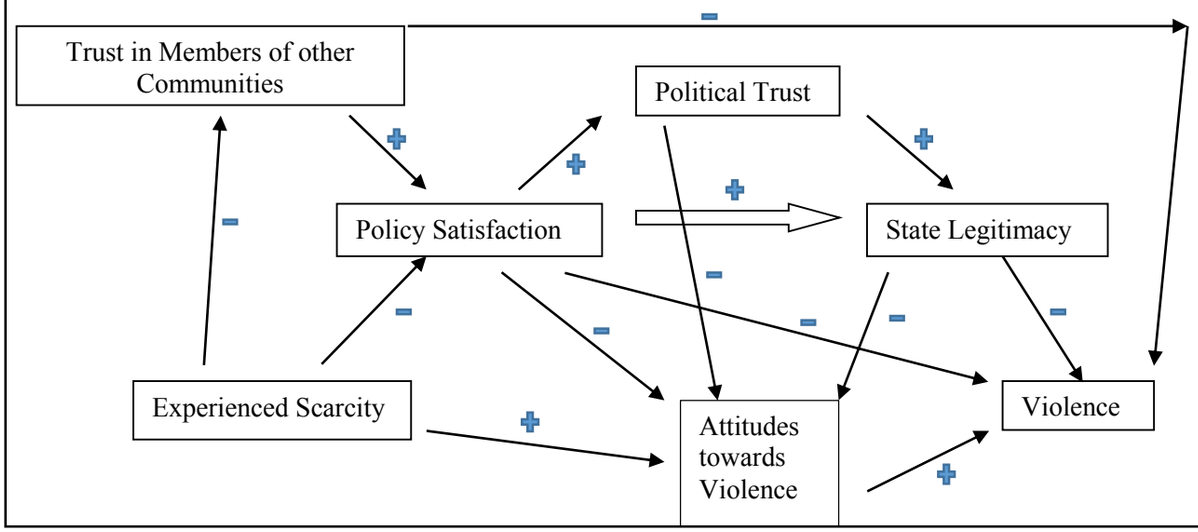


Figure 2.8: Conceptual model of Hypothesis 5.

2.6 Research Design

In this section I outline the research design of my thesis. I present the data- set employed in the analysis, discuss the case selection and method and conclude by summarizing the operationalization of my research design.

2.6.1 Data and Case Selection

In my analysis I use Afrobarometer Round 5 (2011) data for Kenya.[71] Afrobarometer is a cross- national regular survey

[71] Afrobarometer Round 6 (2014 & 2015) unfortunately dropped several variables used in this thesis

series conducted through face-to-face interviews in a number of African countries since 2000. The survey for each country uses a multi- stage probability proportionate to population size design (PPPS) and the sample is stratified by Province and by rural and urban areas. The sample size of Round 5 for Kenya is 2399.

I focus on Kenya due to two considerations. First, previous research has identified Kenya as suitable for the study of environmental scarcity induced violence and conflict. Theisen (2012) argues that Kenya's "lack of a large-scale civil war […] eliminates the possibility that inter-ethnic violence is simply a spillover from civil war".[72] Further he states that high population growth, dependency on agriculture, limited farmland and a history of inter-group conflict make Kenya an "excellent test case" for the resource scarcity and conflict literature.[73] Moreover Theisen (2012) suggests that Kenyan urban areas run a higher risk of conflict and Obala and Mattingly (2014) note that Kenya shows high levels of "ethnically tinged violent conflict" regarding land as well as strong ethnic divisions both in political influence and land access.[74] These findings further corroborate the inclusion of meso- level moderators in the models While case selection based on the dependent variables has been criticized as leading to issues of selection bias (commonly thus overestimating the attributed effect size), I believe the novel approach of modelling the linkage at the individual level outweighs the possible theoretical limitations to be assumed by applying the model to such 'biased' case. Future research is nonetheless well advised to scrutinize any findings derived in this thesis using other cases.

Second, Kenya and the Horn of Africa Region were hit by a devastating drought in early 2011.[75] Recorded as the driest year since 1995, the delayed and weak rainy season in the pastoral and agricultural areas of northern and coastal Kenya saw crops fail, livestock perish, staple prices increase and hundreds of thousands of people suffer from famine. Kenya declared the famine a national disaster and Oxfam (2011) estimates more than three and a half million Kenyans were

[72] Theisen (2012,p. 82)
[73] Theisen (2012,p. 83)
[74] Obala & Mattingly (2013, p. 2736). Based on Kanyinga (2006) and Syagga (2011) I argue that especially the Kikuyu ethnic group has been granted highly advantageous influence in political land matters and direct access to land. While not a central hypothesis of this thesis, the models will test for the moderating influence of being Kikuyu rather than any other ethnicity. For an overview of ethnic group size at national level and reported voting behavior by Ethnic group, see Appendix Chapter 2.61. For ethnic group size by Kenyan Region, see Table 2.1 (p.30) and Table 2.2 (p.31)
[75] All information presented in the following paragraph is taken from OCHA (2011) and Oxfam (2011)

directly affected by the famine.[76] Moreover, the drought of 2011 spurred an increase in migration, with over 400 000 Somali Refugees sheltering in Northern Kenya alone. This migration further strained food and water availability and heightened security and health risks.

Afrobarometer interviews in Kenya were conducted in November 2011, roughly six months after the peak of the famine. While the sampling method used in Kenya means that highly remote areas were less likely to be sampled[77], the scope of the famine can be assumed to have affected the country beyond the Northern and Coastal Areas.

2.6.2 Method

I use multivariate structural equation modelling to test the hypotheses empirically. This method allows me to gauge, first, the validity of refining Homer- Dixon's model from a two-step model into a multi- step model. Second, the validity of framing violence as a function of inter-communal trust, policy satisfaction, political trust and state legitimacy driven by experienced scarcity at the point of consumption And third, the importance and impact of conditional, meso- level, factors which I test using moderator variables.

The empirical analysis is conducted in four steps. First, following conceptual considerations, questionnaire items are collapsed where possible into single variables using Factor Analysis.[78] Further, the reliability of each factor is tested using Reliability Analysis. The outcomes of the undertaken Factor Analyses are presented in the following section in which I discuss the variables of the model.

Second, 'initial models' test the hypotheses presented in the previous section using the full Kenyan sample. The initial models enable me to build a causal model linking experienced scarcity with use of violence through secondary variables outlined in the conceptual model above. Moreover testing the initial models sequentially allows me to ensure parsimony of my revised model. Secondary variables which are found to be expendable or non-fitting to the models will be dropped from the initial model and subsequently not be tested in the revised model.

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[76] OXFAM (2011)

[77] Due to proportional sampling and the strata method chosen, highly remote areas are less likely to be sampled assuming they are less populated. In proportion to the sample, only very few interviews were held in such areas.

[78] Throughout my thesis I use Maximum Likelihood method with Direct Oblimin in the Factor analyses.

Third, I derive a revised model from the results of the initial model tests. The revised model is then tested for different moderator groups, outlined in the following section. This enables me to differentiate valid path models when considering varying groups in the data set, as well as assess the effect of conditional factors on the casual linkages between experienced scarcity and use of violence. Fourth, I explain possible group differences by introducing additional variables to determine what might be causing the perceived group differences.

The required multivariate of assumptions of linearity, multicollinearity and homoscedasticity were tested for all variables entered into the initial models. In order to test for possible mediation effects, direct and indirect effects are taken into account.I test the initial and revised models in SPSS AMOS. Curve-estimation tests were run for all relations in both the initial and revised models and it was determined that all relations were sufficiently linear to be tested using co-variance based structural equation modeling. Multicollinearity was tested by using the VIF- Collinearity measure in linear regression analysis. A threshold of VIF< 3 was deemed to be sufficient to dismiss any issue of collinearity. Heteroscedasticity was expected as the revised models were moderated by multi- group moderators. Tests for Homoscedasticity were thus not separately run. The inclusion of moderator variables in the revised models resulted in different sample sizes for each moderated revised model. The sample size for each model however was deemed sufficiently large to allow for structural equation modeling.[79] I use Bootstrapping and the Bias- Corrected percentile method (Two Tailed significance (BC)) to test the significance of the indirect effects. The model fit of the initial and revised models is assessed through the commonly cited model fit indices- CMIN/DF; CFI; and RMSEA. The models are considered of adequate fit if the indices meet the thresholds of CMIN/DF < 4; CFI > 0,97 and RMSEA < 0,05. The proportion of explained variance in the secondary and dependent variables is tested by Squared Multiple Correlations.

Little's MCAR test was run to assess whether missing data could be imputed. However, the test suggested that the missing data was not missing at random. To maintain a high percentage of the Kenyan sample and reduce the risk of excluding cases based on sensitive question items, I recoded invalid response ('don't know; 'refused'; 'not applicable')

[79] To proceed with the analysis of a Structural Equation Model the number of data points must either equal (this is referred to a as a 'saturated' or 'just identified model' or be greater than the number of parameters to be estimated (this is referred to as an 'overestimated model'). For all models that I tested the models were confirmed to be 'overestimated', thus confirming a sufficient sample size.

to mean values for attitudinal items, and, recoded invalid responses to a value indicating no action for behavioral items.

2.6.3 Operationalization

In the following section I present the variables employed in the models of this thesis. All variables are taken or computed from the Afrobarometer Round 5 dataset (2011) for Kenya.[80]

I selected a dependent variable that indicates respondents' reported use of violence for a political cause during the 12 months prior to the interview. Moreover I use five secondary variables reflecting meta- causes outlined by Homer-Dixon (1999) as well as (non-resource related) work on political trust and regime legitimacy. The five variables are: (1) Policy Satisfaction, (2) Inter- communal trust, (3) Political Trust, (4) State legitimacy and (5) Attitudes towards Violence. Additional secondary variables are introduced for individual models in section 3.4.[81]

Dependent Variable

'Use of Violence' is measured using a question which asks respondents whether they had used force or violence for a political cause in the last 12 months.[82] High scores indicate that respondents have used violence more frequently while low scores indicate that respondents have not and would not use violence for a political cause.

[80] For an overview of the variables see Appendix Section 1.1 and 1.2.

[81] As these secondary variables are only introduced for specific revised models I will not discuss them in this section. A description for any variables introduced at a later stage is given within the respective chapter section.

[82] Question Q26e; Afrobarometer Round 5 (2011) for Kenya. Interviews for Kenya (Round 5) were conducted in November 2011. The question should thus apply to any action taken between November 2010 and November 2011. This period coincides with the East African Drought.

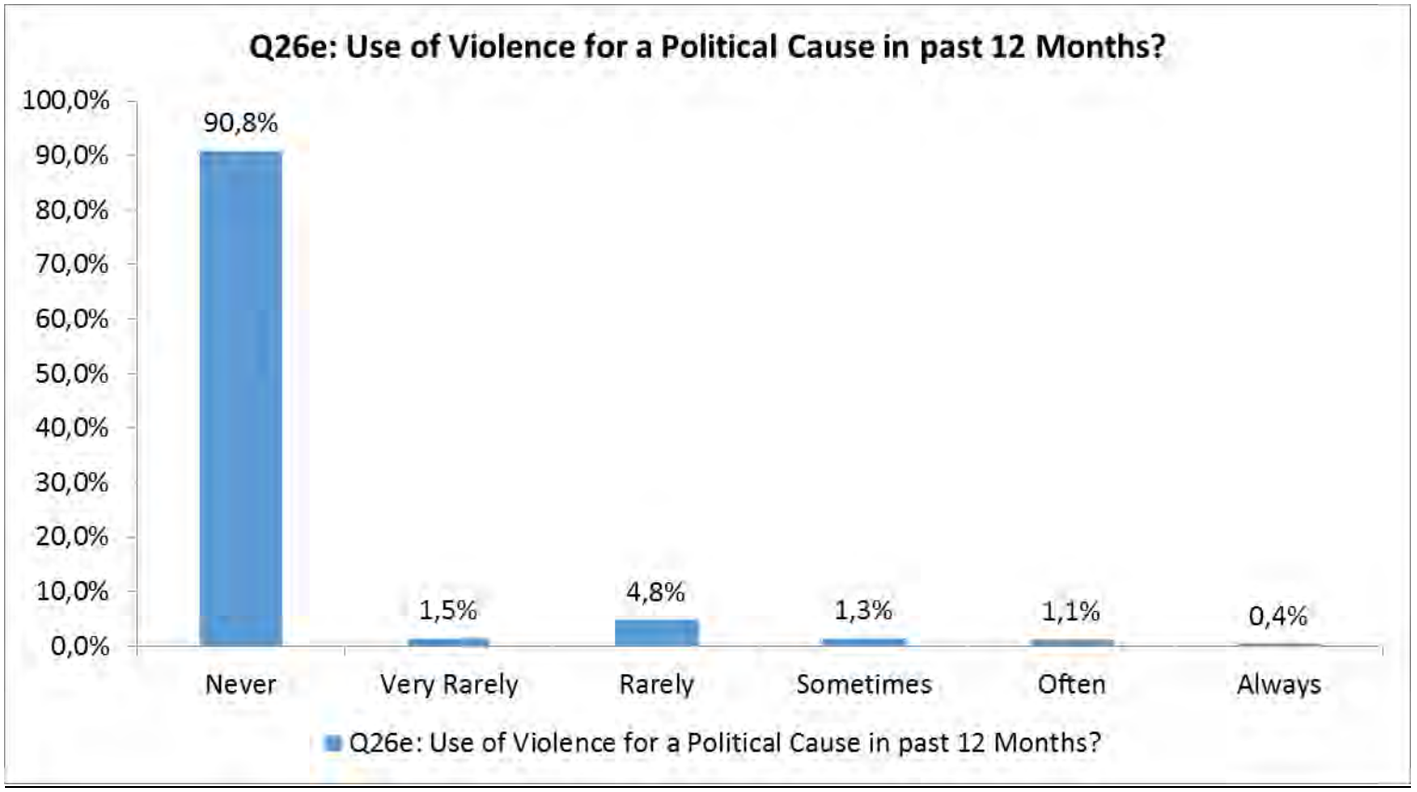
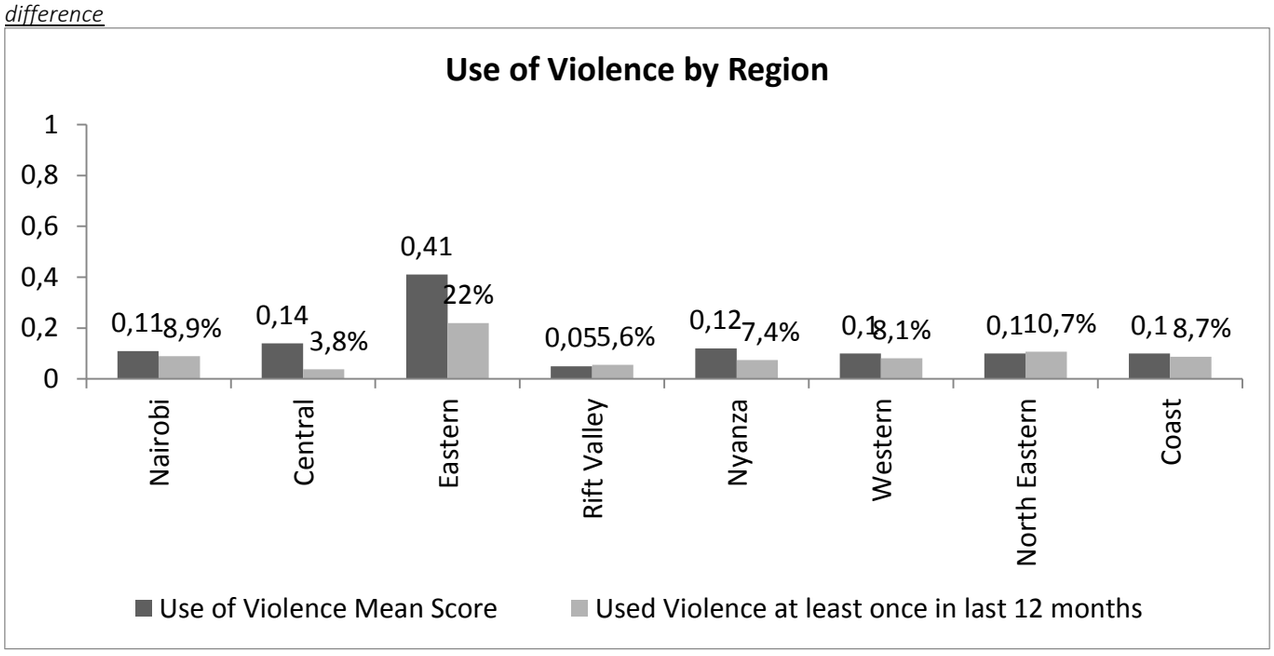


Figure 2.9: Frequencies of Responses to Q26e: Use of Violence for Political Cause in last 12 months.

From Figure 2.10 it is apparent that most respondents never used violence in the 12 months prior to the survey interview. However, examining the use of violence at the national level might hide patterns of violence below the national levels or along other indictors. As outlined above, the use of household survey data allows for contrasting of sub- groups based on meso- level conditional factors. In the following I will refer to these conditional factors as moderators as they are not included in the path models as endogenous or exogenous variables, but rather used to create sub- samples which are contrasted within a single model.

Figure 2.10: Use of Violence mean score by Region and percentage of respondents who report having used violence at least once in the last 12 months by Region. Note that the scale of the dependent variable runs from 0 to 4. Figure has been cropped for better visualization of difference



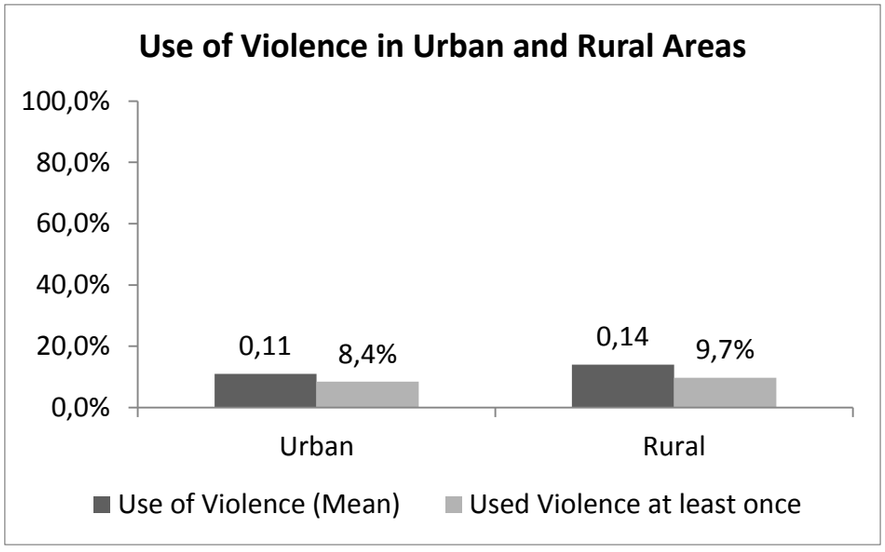


Figure 2.11: Mean scores (Use of Violence) percentage of respondents who report having used violence at least once in the last 12 months for Urban and Rural Sample. Note that the Use of Violence is coded from zero to four. For better visualization of difference, scale is only shown from 0 to 1.

The figures above depict the mean score of the dependent variable and the percentage of respondents who reported to have used violence at least once in the 12 months before the interview. In comparison to Figure 5.10, I find that strong difference in the level of use of violence exist between Regions within Kenya. As Figure 2.11 shows, reported use of

violence was especially high in the Eastern Region. Moreover I find that the use of violence appears to be more frequent in rural areas.[83]

The Afrobarometer Survey for Kenya (2011) allows me to compute moderator groups indicating levels of ethnic fractionalization at the sub- national level. As Denny and Walter (2014) state, the majority of all civil wars since 1946 have been divided along ethnic lines, rather than lines of class, religion or political ideology.[84] Ethnicity, they argue, in the context of civil violence, is of heightened relevance for three central reasons.[85] First, political leaders are more likely to favour their own ethnic groups which causes grievances along ethnic divides. Second, ethnic groups tend to share strong ties along linguistic and cultural characteristics, making it easier for them to mobilize support when aggrieved. And third, ethnic identities tend to be exclusive and ethnic boundaries closed, making credible commitments more difficult to make and hold. What conditions favour ethnic based conflict to actually erupt is addressed by Reynal- Querol (2002). Reynal-Querol (2002) argues that contrary to the common claim that ethnic fractionalization makes violence and conflict more likely, it is ethnic rivalry between exactly two large ethnic groups competing for dominance that makes violence and conflict more likely.[86] I use three moderator variables to test for the effect of ethnicity: relative regional ethnic group size, absolute regional ethnic group size[87], and co-ethnicity with President Kibaki.[88] First, 'relative ethnic group size' draws from Reynal- Querol's (2002) criticism of the overly simplistic 'fractionalization leads to conflict'[89] argument.

[83] These survey items (Region/ Urban- Rural area) are entered by the interviewer, not the respondent.
[84] 64% of all civil wars since 1946. Denny & Walter (2014, p. 199)
[85] Taken from Denny & Walter (2014)
[86] A similar relation was found by Warren & Troy (2015) who find a curvilinear relationship between ethnic group size and propensity to violence. Note that this study was undertaken at the national level.
[87] Throughout this thesis I refer to national and regional levels. In this thesis 'regional level' or 'region' relates to sub- national regions, comparable to provinces or states in other countries. The region in the Kenyan example, was the highest administrative unit under the state level. Since 2011 a reform has changed the number and size of these regions which needs to be considered if future work were to examine time series models.
[88] Ethnic Conflict is a similarly contested field as Environmental or Resource Conflict. Seminal work by Horowitz (1985), Harff & Gurr (1989) and Fearon & Laitlin (1996) has been criticized for over-predicting the role of ethnicity on violence and conflict due to selection bias. Much debate, as with environmental conflict, can be attributed to weak and limited data availability. For an overview of the literature and commonly found data issues in the Ethnic Violence research see Birnir et al (2015). For general discussion see Gilley (2004), Tang (2009) or Denny & Walter (2014)
[89] See Schneider & Wiesehomeier (2008,p. 186)

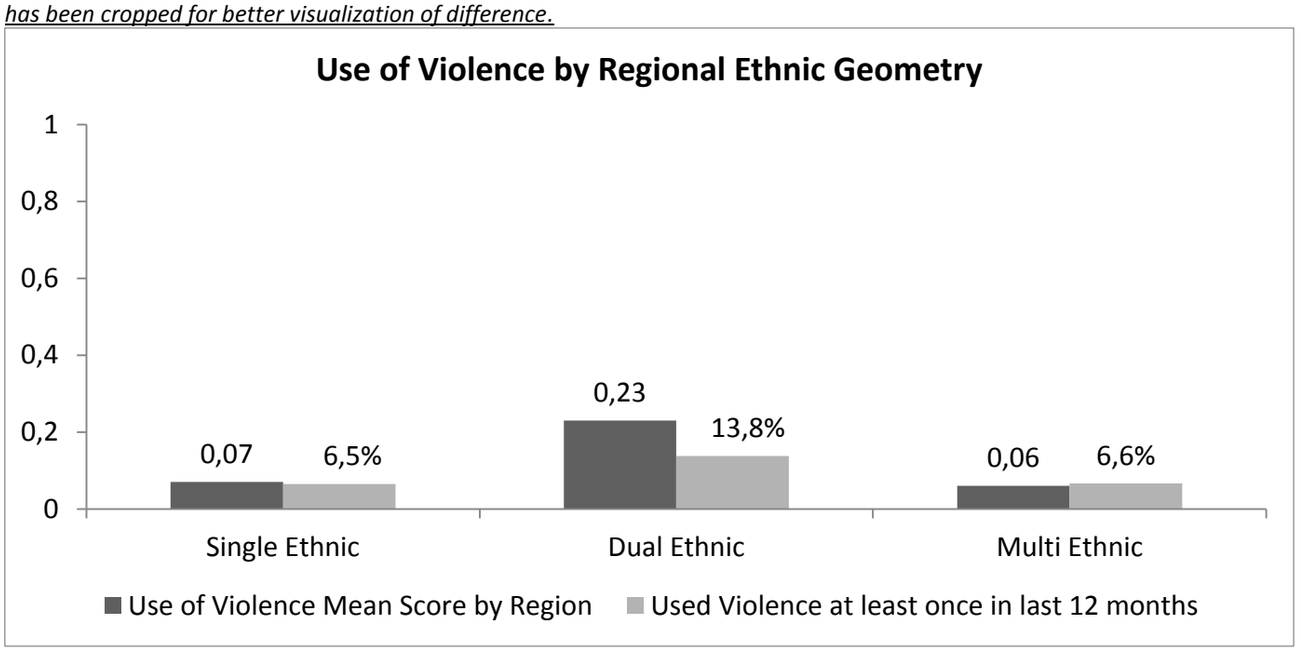
Table 2.1: Coding of Dual-, Single- and Multi- Ethnic Regions.[90]

Region	Dual-/Single- or Multi- Ethnic Region	Ethnic Groups
Nairobi	Multi	Kikuyu, Luo, Luhya, Kamba
Central	Single	Kikuyu
Eastern	Dual	Kamba, Meru -Embu
Rift Valley	Multi	Kikuyu, Luhya, Kalenjin, Turkana
Nyanza	Dual	Luo, Kisii
Western	Single	Luhya
North Eastern	Single	Somali
Coast	Dual	Mijikenda, Taita

Figure 2.13, depicts the use of violence split by ethnic geometry of the Region. It appears that levels of use of violence are higher in dual- ethnic Regions than in single- or multi- ethnic Regions. This indicatively supports Reynal- Querol's argument. Further the Figure suggests that levels of use of violence are similar in single- and multi-ethnic Regions. To underline the heightened importance of duality in the context of ethnic violence I computed the moderator as a dummy variable which distinguishes between respondents who live in Regions with exactly two large ethnic groups and respondents who live in Regions with either a single- dominant ethnic groups or multiple small ethnic groups without a dominant group.[91] Table 2.1 presents the ethnic composition ('ethnic geometry') for each Kenyan Region, as well as the relevant ethnic groups.

[90] See Appendix Tables 2.3- 2.10 for frequency tables for each region
[91] Moderator ('Relative Ethnic Group Size') was computed from Q84 (Afrobarometer Round 5 (2011) for Kenya

Figure 2.12- Mean Score of dependent variable split by Ethnic Geometry of Region and Respondents who reported to have used violence at least once in the last 12 months split by Ethnic Geometry of Region. Note that the scale of the dependent variable runs from 0 to 4. Figure has been cropped for better visualization of difference.



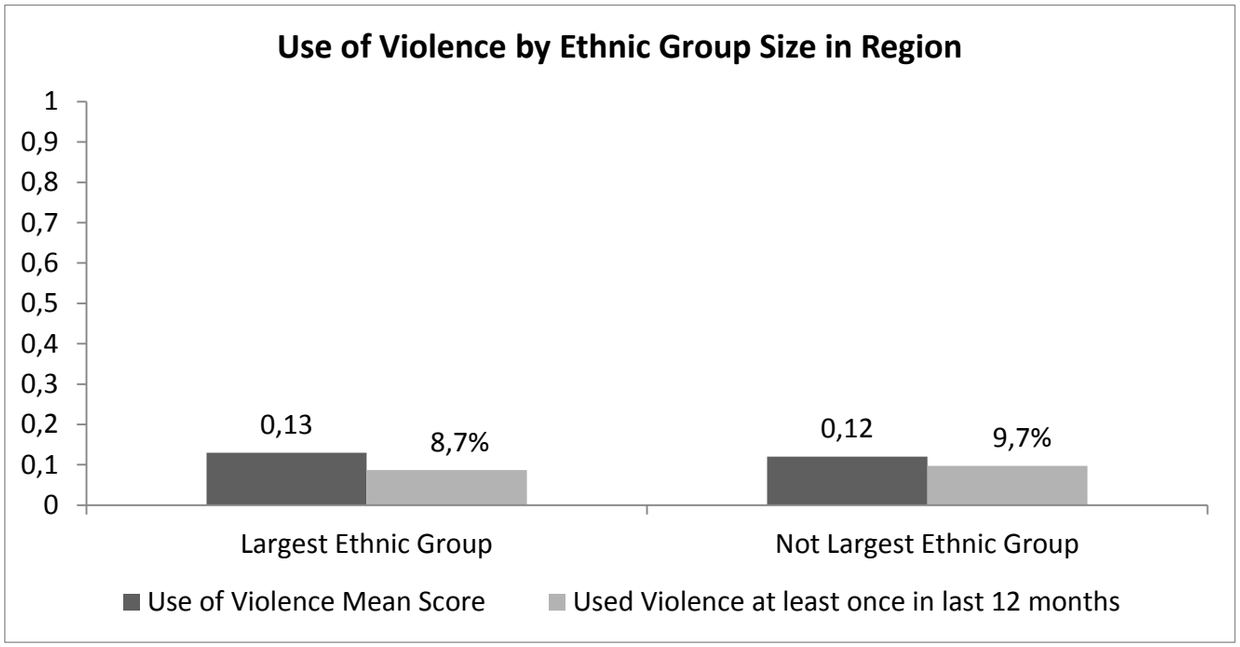
In contrast to the 'relative ethnic group size' moderator, 'absolute ethnic group size' is computed as a dummy variable to capture whether a respondent is a member of the largest ethnic group within the sub-national Region or not.[92] The moderator however does not account for the size of other ethnic groups in the Regions. As Figure 2.14 shows, the differences between respondents who are a member of the largest Ethnic group in their Region, and those who are not, are small.

Table 2.2: Largest Ethnic Group by Kenyan Region

Region	Dominant Ethnic Group
Nairobi	Kikuyu
Central	Kikuyu
Eastern	Kamba
Rift Valley	Kalenjin
Nyanza	Luo
Western	Luhya
North Eastern	Somali
Coast	Mijikenda

[92] 'Absolute Ethnic Group Size', computed from Q84 (Afrobarometer Round 5 (2011) for Kenya)

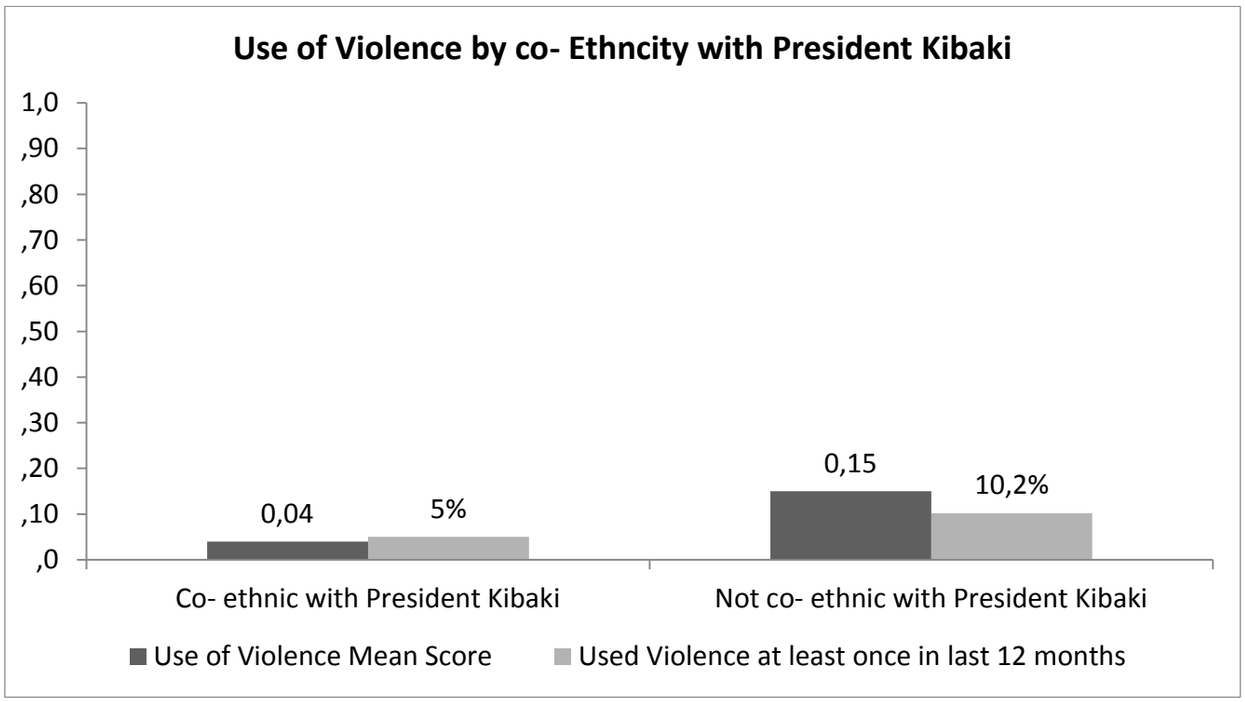
Figure 2.13- Mean Score of dependent variable split by Ethnic Geometry of Region and percentage of respondents who reported to have used violence at least once in the last 12 months split by Ethnic Geometry of Region. Note that the scale of the dependent variable runs from 0 to 4. Figure has been cropped for better visualization of difference



I computed a third moderator, 'Co-Ethnicity with the President', as a dummy to distinguish whether or not a respondent is of same ethnicity as the Kenyan President in 2011, Mwai Kibaki, who is Kikuyu.[93] As Figure 2.15 shows, non- co ethnic respondents score higher on the mean score of the use of violence variable and more than twice as many non-co- ethnic respondents reported to having used violence at least once in comparison to the co- ethnic respondents.

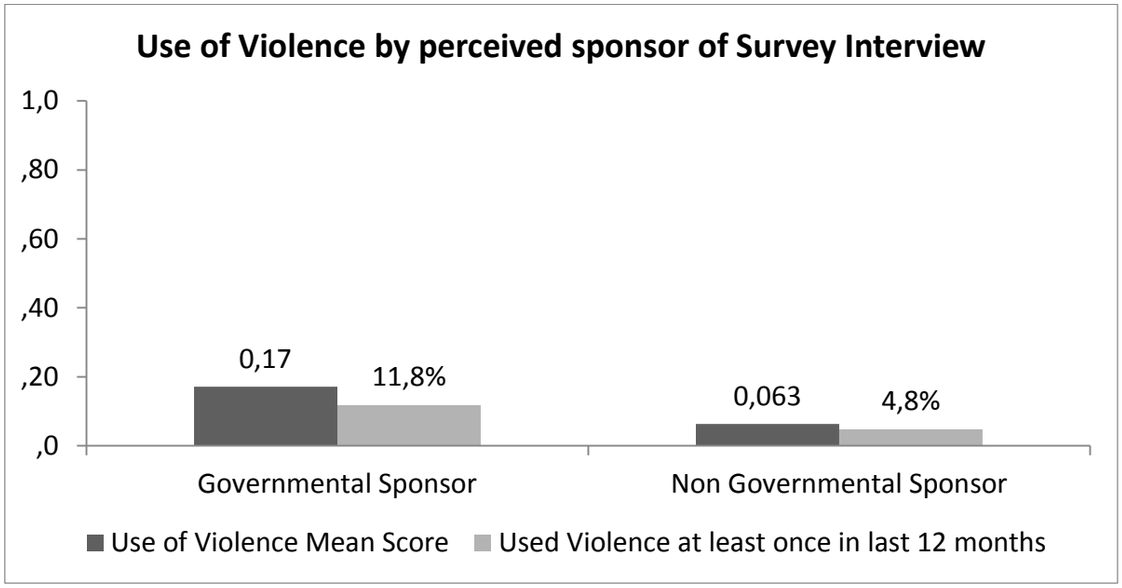
[93] 'Shared Ethnicity with President', computed from Q84 (Afrobarometer Round 5 (2011) for Kenya)

Figure 2.14- Mean score of dependent variable and percentage of respondents who reported to have used violence at least once in the last 12 months split by co- Ethnicity with President. Note that the scale of the dependent variable runs from 0 to 4. Figure has been cropped for better visualization of difference.



The Figures above have suggested differences in reported violence when contrasted by meso- level cnditional factors. However it is important to gauge how reliable the responses regarding the dependnet variable are. Interview based household survey data relies on the responses by interviewees to be as honest and truthful as possible. It is well established however, that a range of conditional factors can influence people's responses when being interviewed. Figures 2.16 and 2.17 address two such conditional factors - shared 'home language' (first language) between interviewer and interviewee; and perceived sponsor of the interview.

Figure 2.15: Mean score of dependent variables and percentage of respondents who reported to have used violence at least once in the last 12 months split by perceived interview sponsor. Note that the scale of the dependent variable runs from 0 to 4. Figure has been cropped for better visualization of difference



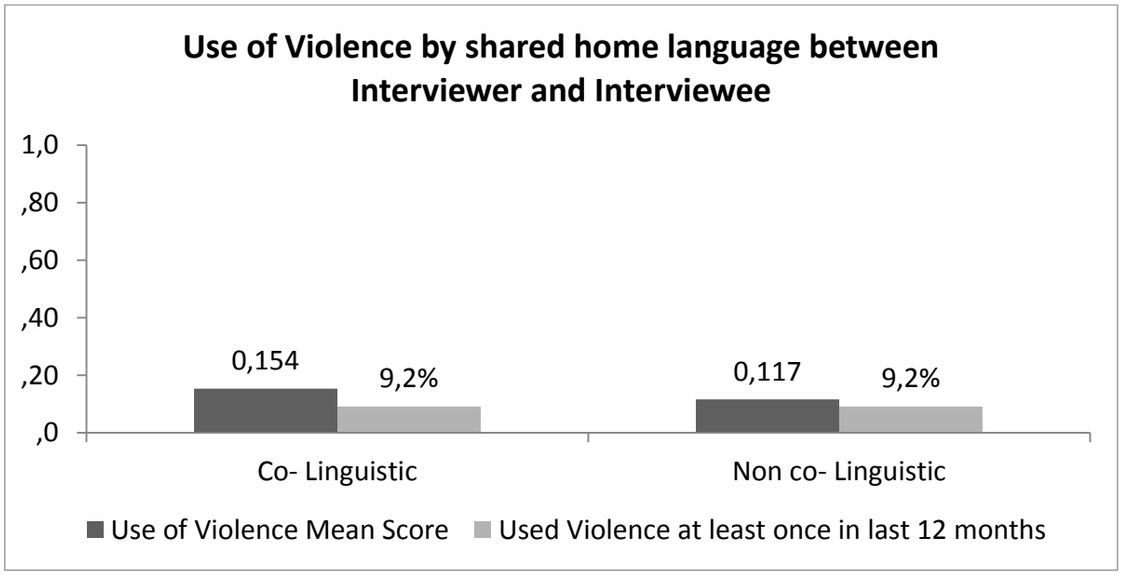


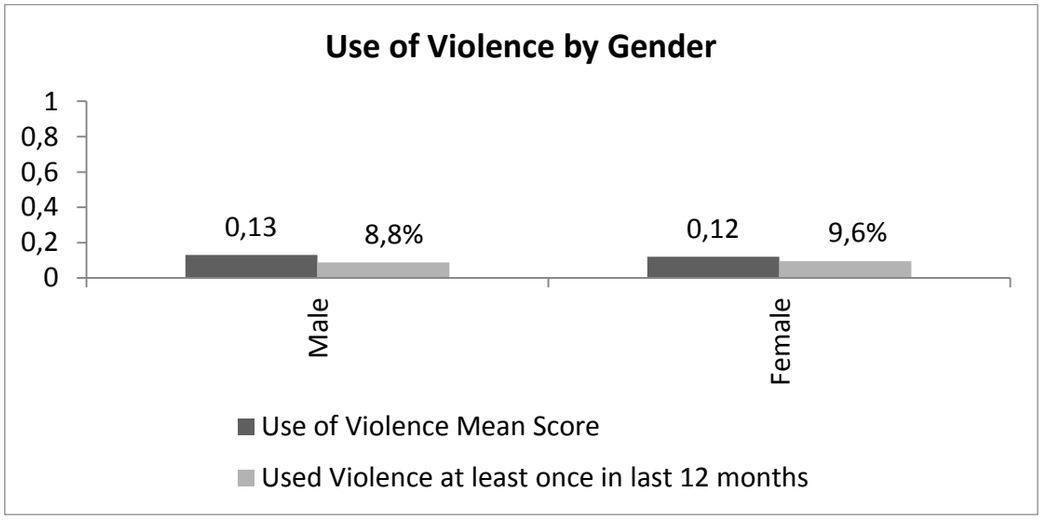
Figure 2.16: Mean score of dependent variables and percentage of respondents who reported to have used violence at least once in the last 12 months split by shared home language. Note that the scale of the dependent variable runs from 0 to 4. Figure has been cropped for better visualization of difference

As Figure 2.16 depicts, differences in levels of reported violence emerge once the perceived sponsor of the interview is taken into account. Interestingly, respondents who perceived the interview to be government sponsored, reported higher levels of use of violence than respondents who perceive the interview sponsor to be non- governmental. Figure

2.17 shows that the mean score is higher for respondents who are co- linguistic with the interviewer. Moreover the Figure shows that the percentage of respondents reporting to have used violence at least once is the same for both groups.

A number of demographic factors might also influence levels of reported violence. Gender, Age and Education are commonly used control variables and their impact on social attitudes and behavior is well established. As the Figures below show, the level of reported violence does not differ greatly between men and women, but appears to be highest for young adults (18- 24) and lower for older respondents. Also, levels of reported violence are highest for respondents who had informal schooling only. Interestingly the level of reported violence does not decrease as the level of education increases. In fact, reported use of violence increases for respondents with some University education and postgraduate education.

Figure 2.17: Mean score of dependent variables and percentage of respondents who reported to have used violence at least once in the last 12 months split by Gender. Note that the scale of the dependent variable runs from 0 to 4. Figure has been cropped for better visualization of difference



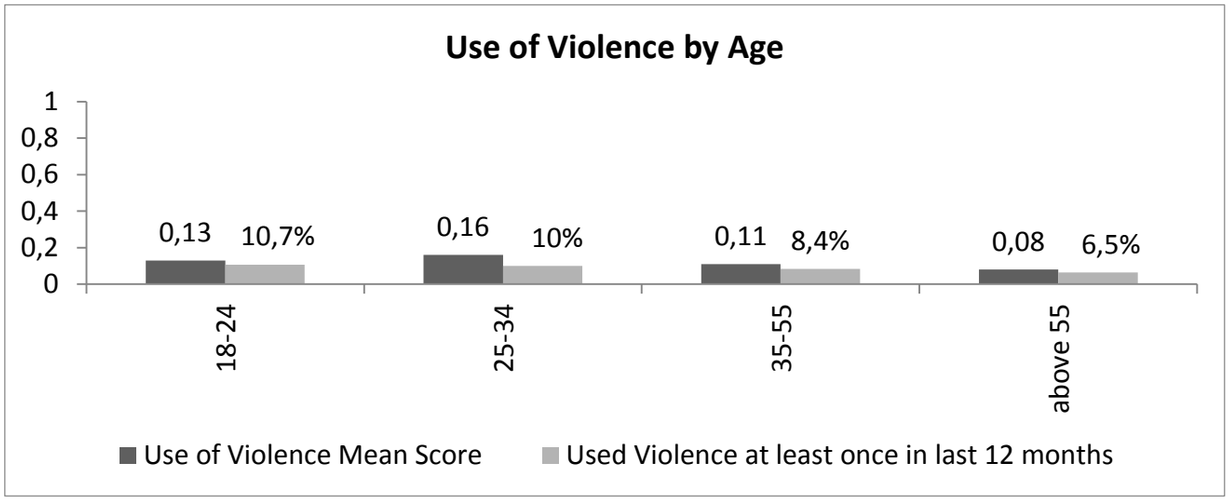


Figure 2.18: Mean score of dependent variables and percentage of respondents who reported to have used violence at least once in the last 12 months split by Age. Note that the scale of the dependent variable runs from 0 to 4. Figure has been cropped for better visualization of difference

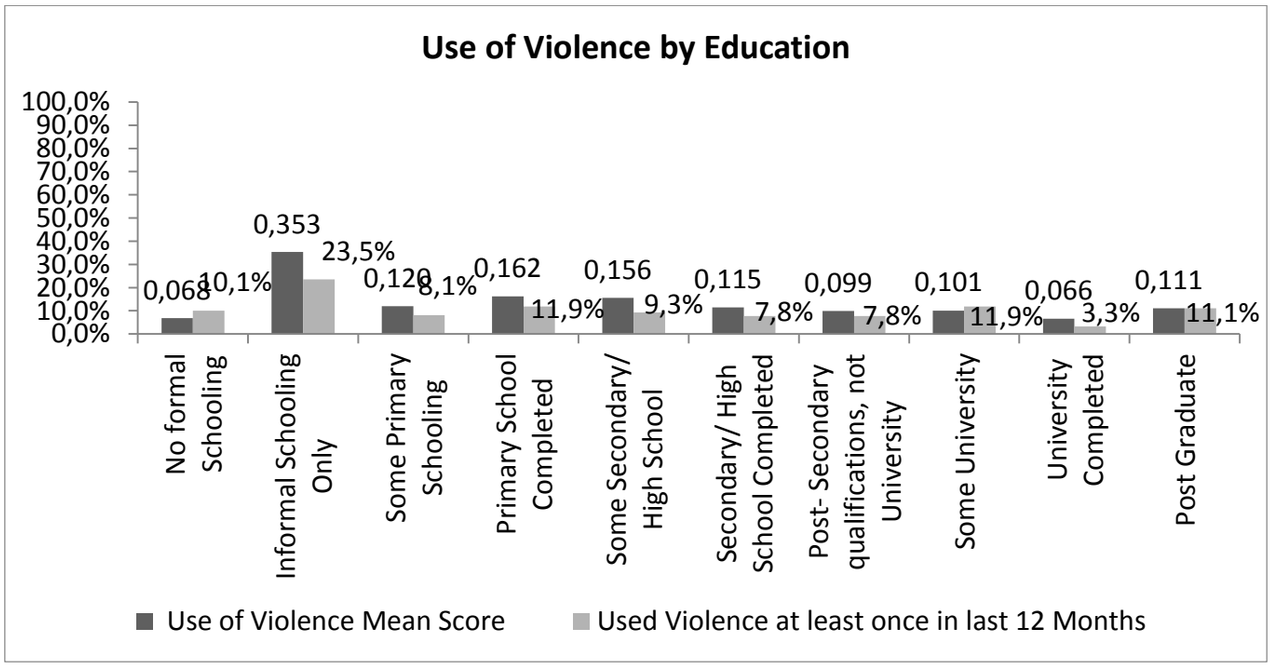


Figure 2.19: Mean score of dependent variables and percentage of respondents who reported to have used violence at least once in the last 12 months split by Education.

Overall it appears that while levels of reported violence are low (<10%) for Kenya as a whole, differences emerge once the sample is contrasted by meso- level indicators. From the Figures above, the use of violence seems to be high in dual- ethnic Regions and rural areas as well as for respondents who are not co- ethnic with President Kibaki. Moreover, reported use of violence appears to be especially concentrated in the Eastern Region of Kenya.

Independent Variables

The independent variables indicate how often respondents, in the last 12 months, have gone without food and water, respectively. I refer to this as 'experienced scarcity' or 'lived scarcity. My independent variables stand in contrast to previously applied aggregate or approximated per capita scores used to measure scarcity. The variables are ordinal with response- categories ranging from never to always. I recoded the two variables by collapsing the highest two categories indicating frequency of going without food or water into one category.[94] To distinguish between natural causes of 'experienced scarcity' and poverty-caused 'experienced scarcity' I include a poverty factor ('wealth scarcity') as a third independent variable.[95] The poverty variables ask respondents how often they have gone without medical care, cooking fuel and cash income in the last 12 months.[96] The poverty factor is included in the path model as an exogenous variable and is co- varied with experienced food and water scarcity, respectively.

[94]Conceptually I feel that responding 'always going without food or water' is unlikely. Further the low case number of those responding in such category is low.

[95] Poverty or proxies thereof, such as living conditions, have been found to impact people's dissatisfaction and thereby their propensity to rebel or engage in violent behavior. See Boix (2003) for the effects of an accumulative poverty score on satisfaction, Russett (1964), Gurr (1974) for living conditions on satisfaction, and Fearon & Laitlin (2003), Hegre & Sabanis (2006) and Murdoch & Sandler (2002) for satisfaction on propensity to rebel. All taken from Denny & Walter (2014, pp. 202- 203).

[96] Factor analysis was used to test the validity of collapsing the items (Eigenvalue= 1.281; 42.705% Variance explained) and reliability analysis was used to test the reliability of the factor (Cronbach's Alpha= 0.672).

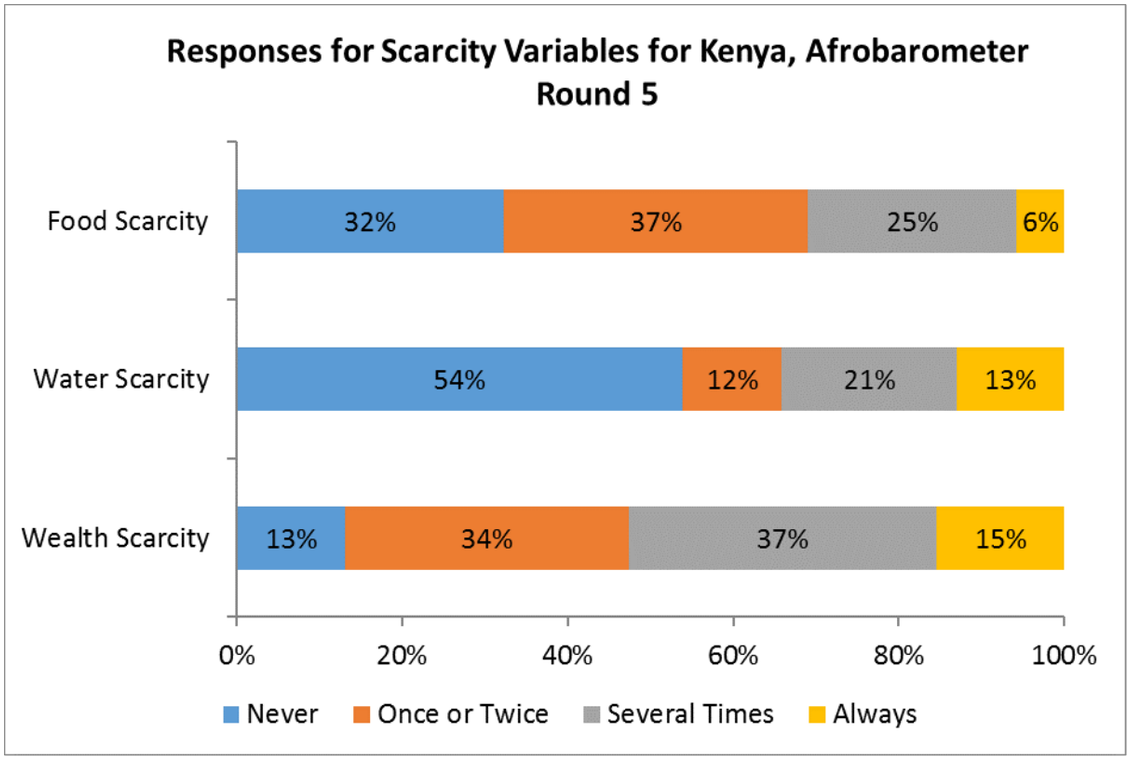


Figure 2.20: Responses for Experienced Scarcity (The figure only indicates valid responses. Missing data has been excluded).

Secondary Variables[97]

I selected secondary variables following my research design of framing the effect of experienced scarcity on use of violence as function of policy satisfaction, political trust and state legitimacy. The secondary variable are rarely found in the scarcity- violence literature.

Policy satisfaction

I employ a factor variable to test policy satisfaction. 'Policy Satisfaction' is computed from five variables.[98] Respondents are asked to evaluate how well or badly the national government is managing the economy, improving living standards

[97] For all questionnaire items see Appendix Section 1.1 and 1.2

[98] The five items are taken from the Afrobarometer Survey (Round 5) in Kenya: 1. Q65a. Handling managing the economy; 2. Q65b. Handling improving living standards of the poor; 3. Q65c. Handling creating jobs; 4. Q65d. Handling keeping prices down; 5. Q65e. Handling narrowing income gaps.Factor analysis was used to confirm the validity of the factor (Eigenvalue= 2.437, 48.747% of variance explained; KMO= .804, significant at p<.000), and Reliability Analysis was applied to test for reliability (Cronbach's Alpha= 0.821).

of the poor, creating jobs, keeping prices down and narrowing income gaps. The factor was coded to have the same categories as the questions items, apart from the two highest categories "fairly well" and "well", which were collapsed due to only one respondent in the "well" category.

Inter- Communal Trust

I use inter- communal trust as a proxy for societal segmentation which follows directly from Homer-Dixon (1999). The question item asks respondents to evaluate their trust in members of other communities.[99] The items was not recoded and is tested singularly. Higher score indicate more trust in members of other communities while low scores indicate less trust.

Political trust

Political Trust is computed from three question items. The first item asks for respondent's evaluations of trust towards the President. The second item asks for evaluations of people's trust in Parliament, while the third item asks for evaluations of trust in the elected local government council. The items are coded for higher scores to indicate higher levels of trust and lower scores to indicate lower levels of trust.[100] The scale of the factor variable is modelled to reflect the range used in the three variables, however no categories were coded. The factor variable runs from no political trust (low scores) to a lot of political trust (high scores).

State Legitimacy

'State Legitimacy' is tested using a factor computed from three attitudinal question items. The questions ask for people's agreement or disagreement with obeying court decisions, laws and paying taxes.[101] High scores indicate higher agreement

[99] Q88d-ken. Trust members of other communities; Taken from Afrobarometer Round 5 (2011) for Kenya

[100] Items used from Afrobarometer Round 5 (2011) for Kenya: Q59a. Trust president; Q59b. Trust parliament/national assembly; Q59e. Trust your elected local government council. Factor Analysis (Maximum Likelihood wit Direct Oblimin Rotation) was used to confirm the validity of the Factor (Eigenvalue= 1.715 (57.2% variance explained), KMO= 0.636 (significant at $p< 0.000$)) and Reliability Analysis was used to confirm the reliability of the factor (Cronbach's Alpha= 0.624)

[101] Respondents were asked how strongly they agreed or disagreed with the following statements: Q48a. Courts make binding decisions; Q48b. People must obey the law; Q48c. People must pay taxes. (Afrobarometer Round 5 (2011) for Kenya). Factor Analysis (Maximum Likelihood wit Direct Oblimin Rotation) produced an Eigenvalue of 1.392 (46.391% of variance explained). Reliability Analysis produced a Cronbach's Alpha of .710.

while low scores indicate disagreement. The scale is computed to run from zero to four without any computed categories. Kirwin and Cho (2009) use this exact measure as an indicator of state legitimacy.[102] Following Levi (1988) and Englebert (2000), Kirwin and Cho (2009) argue that disagreement with such behaviour indicates lower levels of legitimacy, affecting the states' ability to maintain control, generate a tax- income and ensure economic growth.[103]

Attitudes towards Violence

Attitudes towards violence is measured using an attitudinal question item that asks respondents whether violence is never justified or can be necessary sometimes.[104] Low scores indicate opposition to the use of violence and high scores indicate support for the use of violence.

Perceived Fairness of Leaders

The perceived fairness of leaders is tested using a survey item which asks respondents to evaluate whether they feel political leaders help everyone or only their own community.[105] The use of perceived fairness of elected officials follows from Schneider and Wiesehomeier (2008) who find that high levels of democracy itself do not have a pacifying effect. In fact, they argue that societal fractionalization has stronger effects on violence in democracies than in autocracies as societal groups are more able to formulate demands and reprimand leaders if these demands are not met.[106] The variable is coded for higher scores to indicate leaders being perceived more fairly while low scores indicate leaders to be perceived as favouring their own community.

Relative Personal satisfaction

Relative personal satisfaction is tested using a survey questions that asks respondents to evaluate their present living in comparison to others.[107] Including relative satisfaction echoes a body of work arguing for the heightened role of

[102] Note that Kirwin & Cho (2009) do not apply the exact recoding after collapsing of the three items.
[103] Kirwin & Cho 2009: 7
[104] Question Q78; Afrobarometer Round 5 (2011) for Kenya
[105] Q18 ('Leaders help own community vs. treat all equally') was selected to reflect this component. (Afrobarometer Round 5 (2011) for Kenya)
[106] This argument is similar to the argument brought forward regarding the inverted U-shaped relation between democracy and conflict through inability to intimidate or incorporate. See 'political satisfaction' section.
[107] Q4 ('Your living conditions vs. others').

grievances as a predictor of violence. While the empirical basis of the argument has been found to be non-conclusive in some cases, the argument features prominently in several prominent studies[108] and shall thus be included in the models. The question is coded for higher scores to indicate higher levels of satisfaction relative to others.

Control Variables

Three control variables are tested in the revised model. Age was recoded from a variable indicating the respondents' age. Age groups were chosen to allow for easier differentiation and interpretation of results. The groups were computed to capture respondents with ages of 18 to 24, 25 to 34, 35 to 55 and 55 and above as respective age groups. Moreover the revised model will be tested while controlling for the effect of gender and education on the dependent variable. While gender is a binary variable indicating whether the respondent is male or female, the education variable is ordinal with higher item score indicating higher levels of education. Both variables were not recoded.

In this chapter I explored the existing literature on the causal linkages between resource scarcity and violence. I focussed on Kenya before examining literature on the role of intermediary and conditional factors. I concluded that much of the work undertaken suffered from limited theoretical findings and moreover proved difficult to compare. To aid the theoretical reasoning of my thesis I then introduced the work of Homer- Dixon. Homer-Dixon's work enables me to construct and test an empirical model that tests the causal linkages between scarcity and violence in a step- wise and sequential way. Following an analysis of Homer- Dixon's work I critically assessed the current debate and concluded two main limitations inherent to many studies: limited data availability and empirical models that test direct linkages between scarcity and violence. I then constructed a conceptual causal model linking scarcity and violence which, unlike previous work, is posited at the individual level and includes a sequence of intermediary, causally linked, variables which draw from the literature on policy satisfaction, political trust, state legitimacy and the occurrence of violence . To test the validity of my conceptual

[108] See Stewart (2002), Collier & Hoeffler (2001), Azam (2001), de Soysa et al. (2002), Murshed (2002). Note that Murshed (2002) argues that the effect of grievances is particularly strong for non-renewable resources such as oil or diamonds rather than renewable resources such as land or water.

model I then proposed a sequence of hypotheses. These hypotheses regard the relation between the individual linkages within the model. I concluded this Chapter by presenting my research design, the underlying considerations guiding my case selection and my operationalization. I provided a technical description of all variables employed in the empirical analysis and detailed any coding or computing applied to the questionnaire items. The next Chapter presents the initial models in which I test my hypotheses. Using the initial models I derive a revised model, for which I subsequently test control and moderator variables. For each moderated revised model I then test sub- models which include additional exogenous and endogenous variables to further the explanatory value of the model.

3. Results

In this chapter I present the empirical tests of my thesis. I proceed in four steps. First, in section 3.1, I test the hypotheses in a sequence of models which increase incrementally in complexity. I will refer to these models as 'initial models'. From these initial models I derive a 'revised model' which constitutes a coherent and causal set of linkages between experienced scarcity and use of violence. Second, in section 3.2, I compare the revised model to the conceptual model outlined in section 2.4. Third, in section 3.3, I test the revised model when moderated by the specified moderator variables. Lastly, in section 3.4, I (re-) introduce variables to explain possible differences in the revised model for certain sub- samples found in section 3.3.

3.1 Initial Models- Testing of Hypotheses

In this section I test the hypotheses in order to derive a model which links experienced scarcity and use of violence in a sequence of causal intermediary linkages. In this section and the following sections I use figures to depict the output of my models. In these figures significant effects are presented as arrows and significant co- variances are presented as double headed arrows. Non- significant effects are not shown. A variable presented in the figure without connecting arrows indicates that all direct effects were non-significant. Significant standardized regression weights are shown on the respective effects and co- variances. Note that the relative thickness of the arrows is approximate to the strength of the effect. The thickness is however merely a visual aid, not an accurate reflection of strength. For the effect size refer only to the given standardized regression weights. In all figures the significance level is indicated by asterisks ('*'- $p< 0.05$; '**'- $p< 0.001$; '***'- $p< 0.000$). Moreover the figures present the squared multiple correlations for each secondary and dependent variable in the top right corner of the variable box. These squared multiple correlations represent the explained variance in the variable explained by the model. The squared multiple correlations can thus be interpreted as R^2 would be interpreted for Regression Models.

Hypothesis 1

The first initial model tests the "direct effects" argument which provides the basis for Homer- Dixon's critique and includes no mediating or control variables.[109] This model suggests there are significant direct effects of experienced food scarcity on violence for the overall sample. The "direct effects" model did not meet the minimal model fit indices and should therefore not be interpreted.

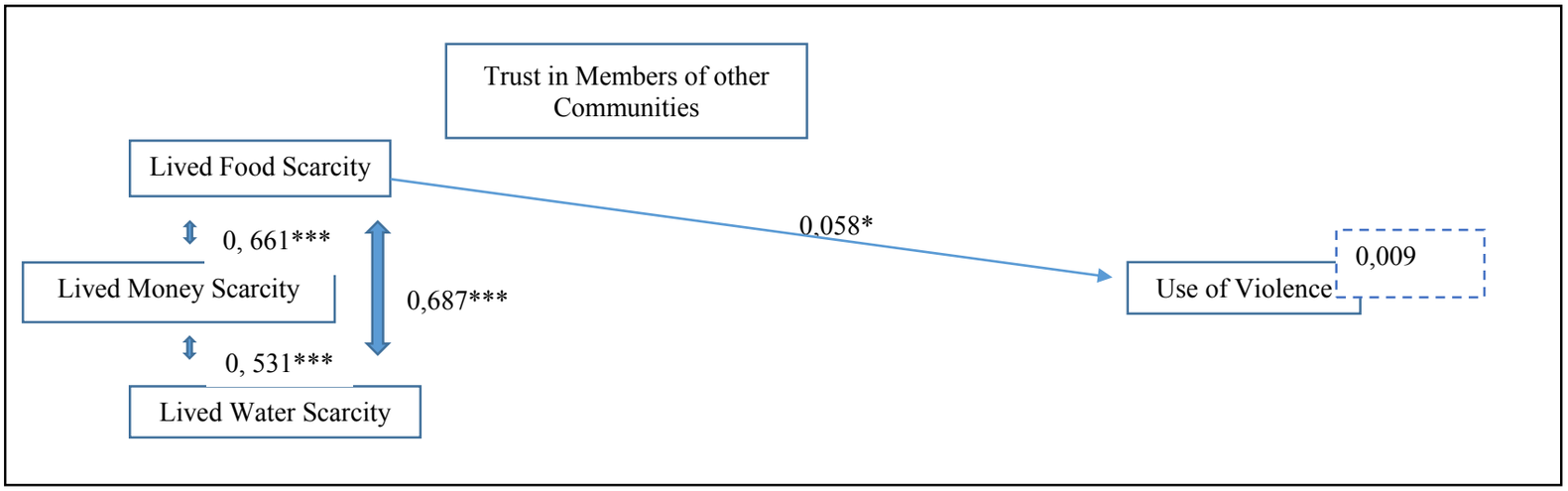
Figure 3.1: Model 1- Direct Effects Model. The model did not meet the minimal model fit indices (CMIN/DF= 0,798, CFI= 1, RMSEA= 0,000); N= 2399

[109] Note that *all* models include the Lived Money Scarcity as a co- variate on the Independent Variables. These will not be specifically emphasised in the description of the models.

Hypotheses 2

A second initial model tests Homer- Dixon's argument of scarcity enhancing societal segmentation which in turn increases the likelihood of violence. To test this argument I use inter-communal trust as a mediator between experienced scarcity and use of violence.

Figure 3.2: Model 2- Initial Model including Trust in Members of other Communities as Meditator between Experienced Scarcity and Use of Violence. Model fit indices were met (CMIN/DF= 1.380; CFI= 1; RMSEA= 0.013). N= 2399

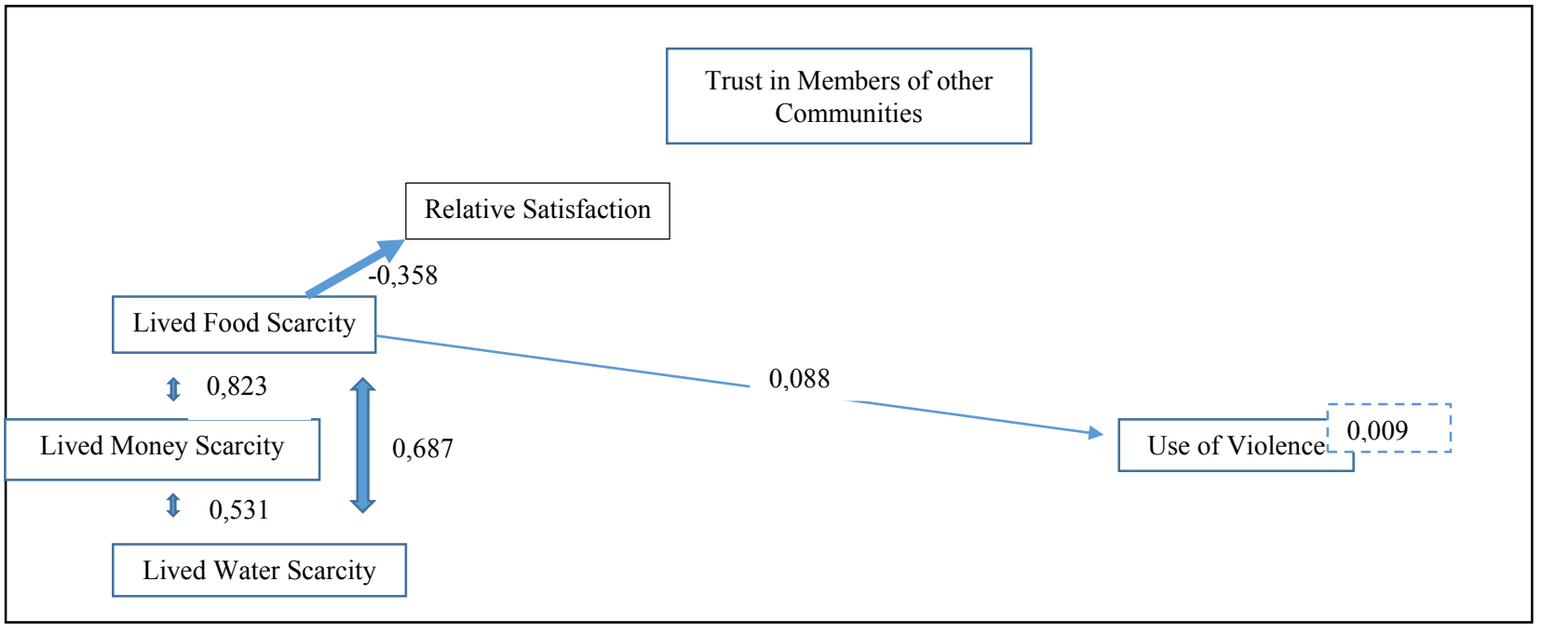


The model however did not meet the minimal model fit indices for both the relation between food scarcity and violence and water scarcity and violence.[110]

To further enquire into the validity of Homer- Dixon's argument I tested a sub- model. As Homer- Dixon argues, societal segmentation arises when scarcity creates sentiments of perceived economic 'winners and losers'. In the sub-models I examine whether the non- significant link between experienced personal scarcity and inter- communal trust can be modelled through relative satisfaction.

[110] Model fit indices: Food (CMIN/DF= 1.346; CFI= 1; RMSEA= 0.005), Water (CMIN/DF= 1.163; CFI= 1; RMSEA= 0.013)

Figure 3.3: Model 3- Testing mediation effects of relative satisfaction on Trust in Members of other Communities. Model met the specified model fit indices (CMIN/DF= 3,166; CFI=, 994; RMSEA= 0,013), N= 2399



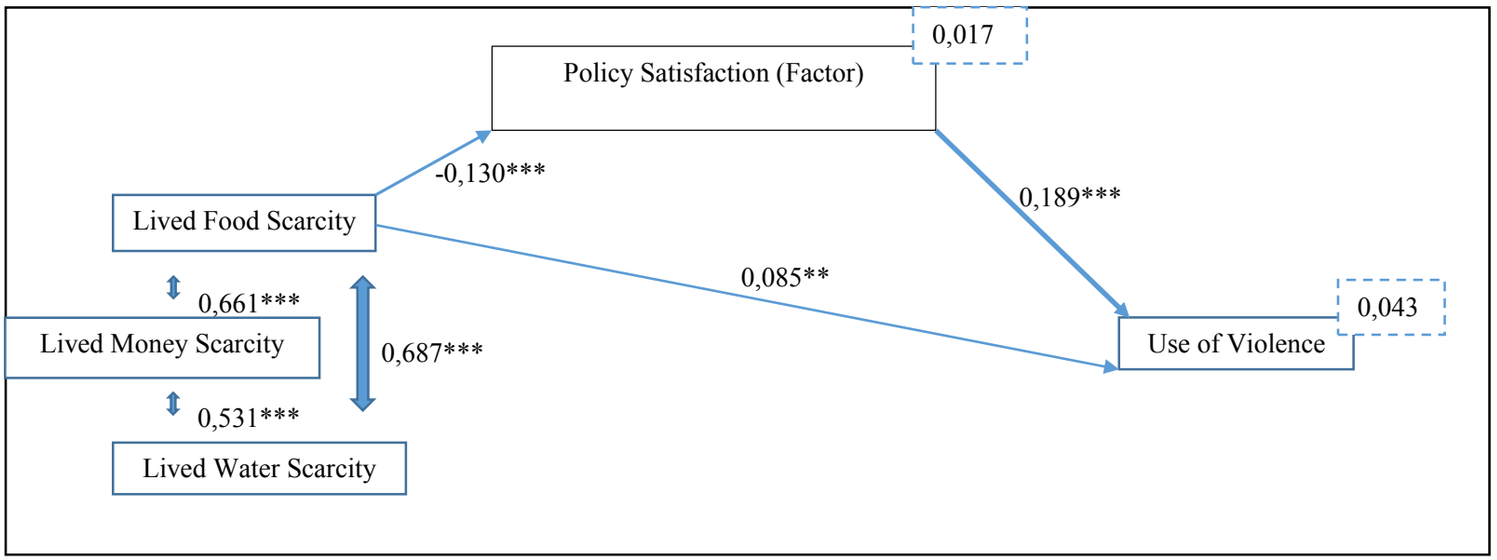
The question I use to test relative satisfaction asks respondents to evaluate their living conditions versus others.[111] This item can thus be deemed a proxy for such sense of 'winners and losers'. I included relative satisfaction as a mediator between experienced scarcities and inter- communal trust. However I found no significant mediation effects between experienced food scarcity and use of violence. Moreover the sub- model for experienced water scarcity did not meet the minimal model fit indices. I therefore reject the second hypothesis as no partial or full mediation was found in Model 1 or Model 2. In addition I dropped 'relative personal satisfaction' and 'inter-communal trust' from the analysis as I found them have no effect on the causal relation between lived scarcity and use of violence.

[111] See Section 2.63

Hypotheses 3a

The fourth initial model tests Hypothesis 3a. I included policy satisfaction as a mediator between experienced food scarcity and violence. Indirect effects were tested separately for experienced food and experienced water scarcity.

Figure 3.4: Model 4- Initial Model including Policy Satisfaction as Meditator between Experienced Scarcity and Use of Violence. The model fit indices were met (CMIN/DF= 3.056; CFI= .997; RMSEA= 0.013), N= 2399.



Model 4 met the minimal model fit indices.[112] Moreover the model confirmed the hypothesis, indicating significant partial mediation between experienced food scarcity and use of violence through policy satisfaction.

Table 3.1: Two Tailed Significance of the Test for significant indirect effects (Model 4).

	Lived Food Poverty	Policy Satisfaction	Lived Water Poverty
Policy Satisfaction	...	...	...
Use of Violence	0.001	...	...

[112] CMIN/DF= 3.056; CFI= .997; RMSEA= 0.013

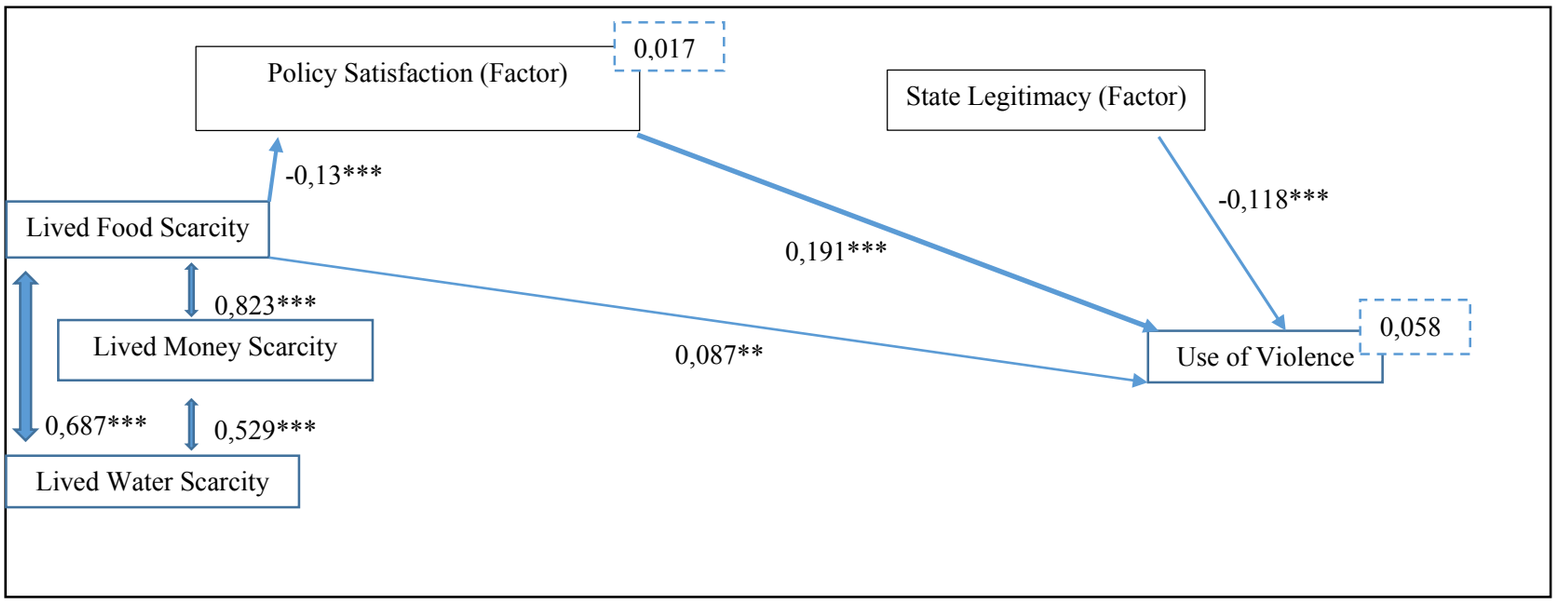
The significant negative effects between experienced food scarcity and policy satisfaction and the significant positive effects between policy satisfaction and violence moreover confirm the purported positive mediation. Respondents who experienced higher levels of food scarcity were less satisfied with government policy, which in turn increased their likelihood of engaging in violence. It is important to note that due to the non- satisfactory model fit indices for the first two initial models, the significant direct effects in the models should not be interpreted. I therefore interpret full and partial moderation effects using the bootstrapping method for Model 4. In a second step I tested the mediation effect of policy satisfaction on the relation between Lived Water Scarcity and use of violence. The tested model however did not meet the minimal model fit indices. Overall Hypothesis 3a was confirmed by the model for Lived Food Scarcity and I found partial mediation through policy satisfaction.

Hypothesis 3b

In Model 5 (Figure 3.5) I expand on Model 4 by including state legitimacy as a potential mediator between policy satisfaction and use of violence. The model met model fit indices.[113] The model indicates that the relation between experienced food scarcity and violence is partially mediated, however the indirect effects suggest that this mediation is only occurring via policy satisfaction but not through state legitimacy. At this point it appears that state legitimacy therefore does not mediate the relation between policy satisfaction and use of violence. The direction of the effect state legitimacy on use of violence is negative, which supports both the literature on legitimacy as an "appeaser" and previous work on the effect of a decline of state legitimacy on violence. I moreover found significant direct effects for both policy satisfaction and legitimacy on use of violence with policy satisfaction being the larger in effect size.

[113] CMIN/DF= 2.734; CFI= .998; RMSEA= 0.027

Figure 3.5: Model 5- Initial Model including Policy Satisfaction as Meditator between Experienced Scarcity and Use of Violence. The model fit indices were met (CMIN/DF= 2.734; CFI= .998; RMSEA= 0.027), N= 2399.



Hypothesis 3c

I expand Model 5 by including political trust as a mediator between policy satisfaction and state legitimacy to test Hypothesis 3b. The model met the minimal model fit indices[114] and I found significant effects between policy satisfaction, political trust and state legitimacy. I found no support for the hypothesized mediation effect.

No direct effect was measured between policy satisfaction and state legitimacy. Rather, as presented in Table 3.2 the model suggests an indirect effect from policy satisfaction on state legitimacy through political trust.

[114] CMIN/DF= 2.883; CFI= .996; RMSEA= 0.012

Figure 3.6: Model 6- Initial Model including Policy Satisfaction as Meditator between Experienced Scarcity and Use of Violence and Political Trust as a mediator between Policy Satisfaction and State Legitimacy. The model fit indices were met (CMIN/DF= 2.883; CFI= .996; RMSEA= 0.012), N= 2399.

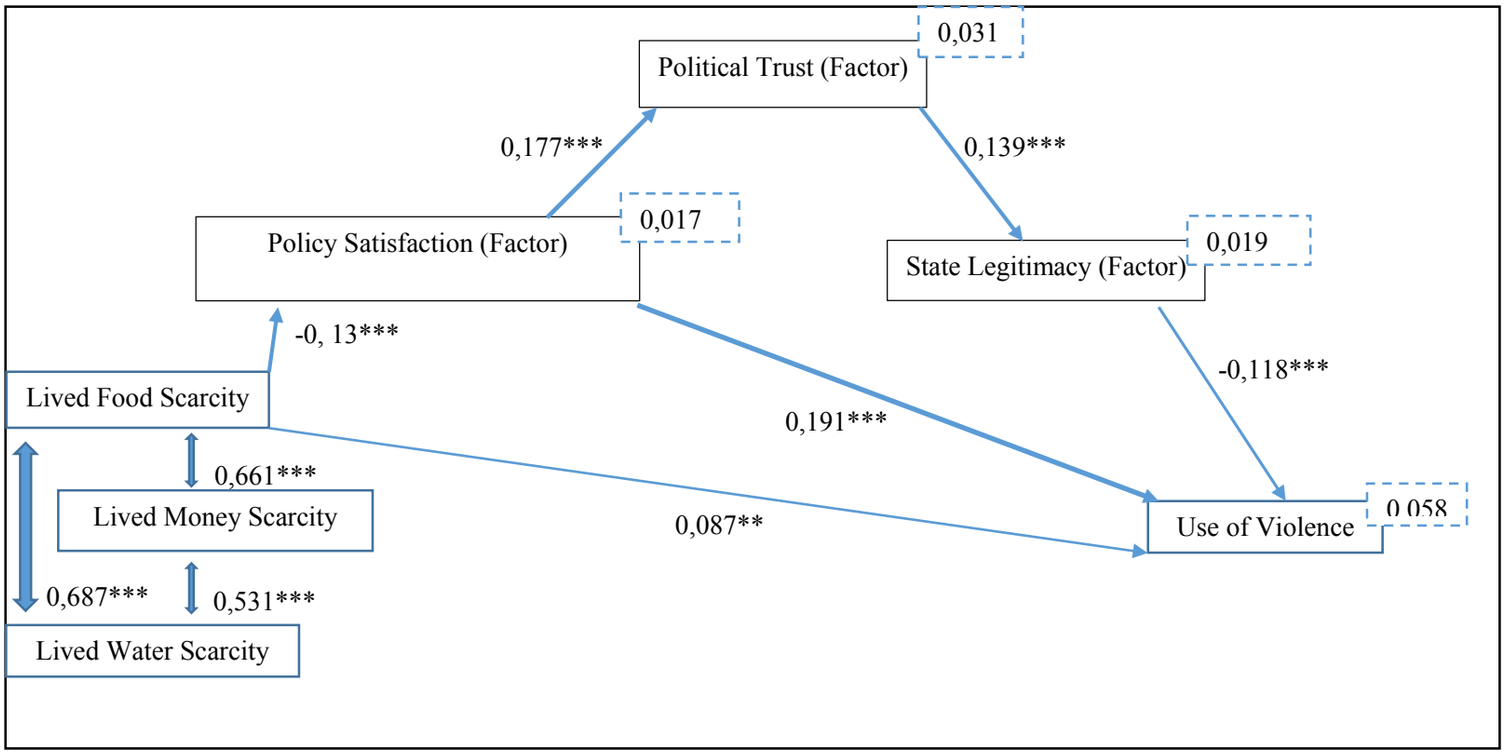


Table 3.2: Test for indirect Effects in Model 6 (Two Tailed Significance (BC) (All - Default model))

	Lived Food Poverty	Policy Satisfaction	Political Trust	State Legitimacy	Lived Water Poverty
Policy Satisfaction	…	…	…	…	…
Political Trust	0.001	…	…	…	…
State Legitimacy	0.594	0.001	…	…	…
Use of Violence	0.001	0.594	0.001	…	…

In an additional step, I re-ran Model 6 excluding the direct path between policy satisfaction and state legitimacy.[115] Table 3.3 presents the indirect effects for that model (Model 6.1). It becomes apparent that not only can the effect of policy satisfaction on violence be plotted through political trust and state legitimacy, but the effect of experienced food scarcity can be plotted as indirect effects through policy satisfaction, political trust and state legitimacy. This indirect effect is significant at p< 0,001 as presented in Table 3.3 below.

Table 3.3: Test for indirect effects in Model 6.1 (Two Tailed Significance (BC) (All - Default model))

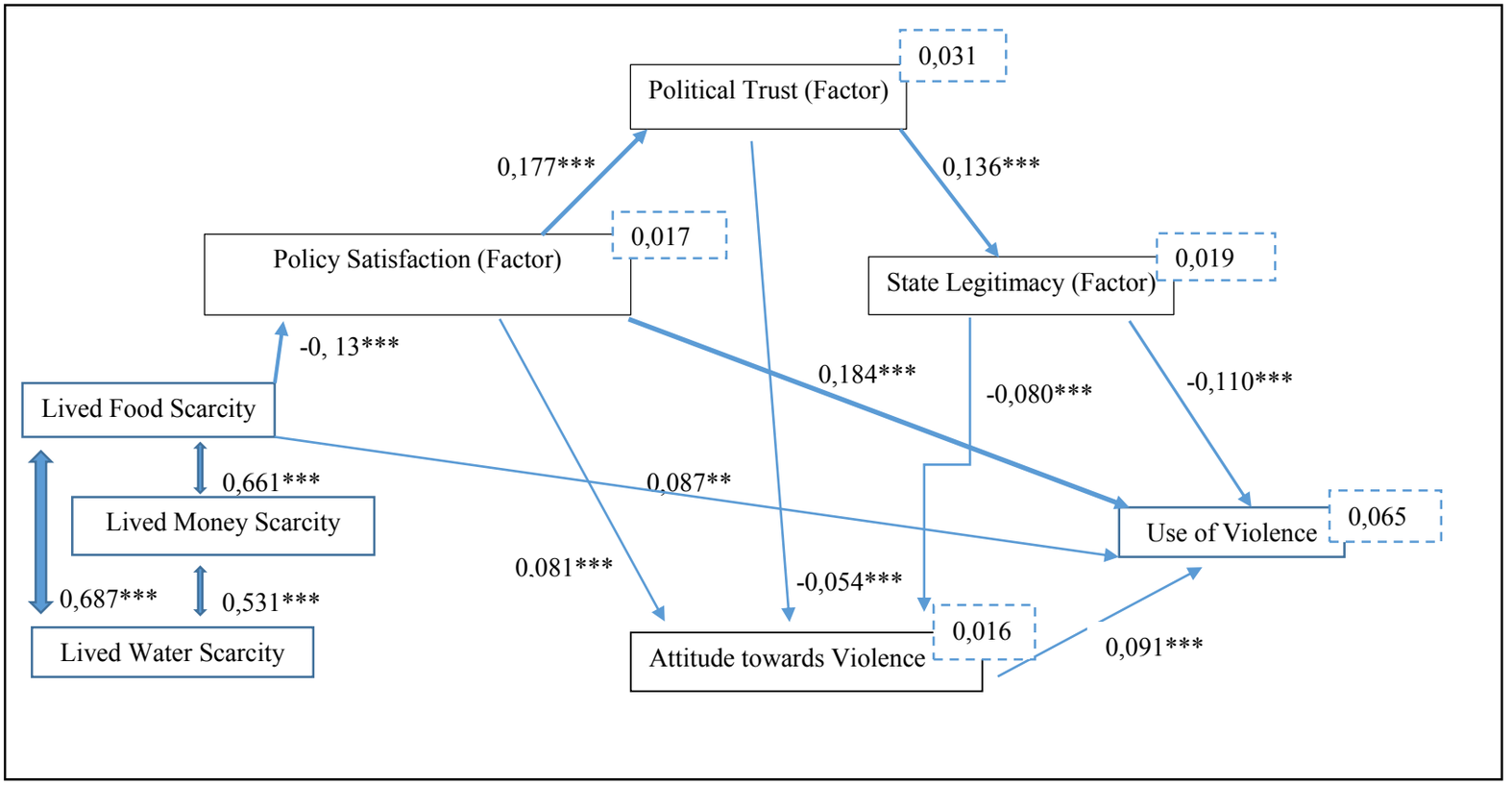
	Lived Food Poverty	Policy Satisfaction	Political Trust	State Legitimacy	Lived Water Poverty
Policy Satisfaction	...	...	...	...	...
Political Trust	0.001	...	...	...	...
State Legitimacy	0.001	0.001	...	...	...
Use of Violence	0.001	0.001	0.001	...	...

Hypothesis 4

Hypothesis 4 concerns the role of attitudes as a pre- condition for behavior. As outlined in the literature review above, many studies have failed to test such a linkage. In Hypothesis 4, I proposed that the active use of violence should causally be preceded by a positive attitude towards the use of violence. Model 7 in figure 3.7 supports Hypothesis 4. Policy satisfaction, political trust and state legitimacy have significant effects on attitudes towards violence which has a significant effect on use of violence. While higher levels of political trust and state legitimacy in turn produce more negative attitudes towards violence, higher levels of policy satisfaction produces more positive attitudes towards violence. More positive attitudes towards violence in turn produce more frequent use of violence which confirms my hypothesis.

[115] The Model met the minimal model fit indices. CMIN/ DF= 2,669; CFI= .996; RMSEA= 0,026

Figure 3.7: Model 7: Initial Model including Attitude towards violence as a pre-condition to use of violence. The model met the model fit indices (CMIN/DF= 2.468; CFI= .995; RMSEA= 0.025), N= 2399.



Hypothesis 5

I conclude this section by testing Hypothesis 5. The overall model met the model fit indices[116] but refuted the proposed hypotheses (see Figure 3.7). While I find significant indirect effects linking experienced food scarcity and use of violence (see Table 3.3), experienced food scarcity retained a direct significant effect on violence.

As Figure 3.7 shows, the indirect path through policy satisfaction, political trust and state legitimacy as well as the direct path between experienced food scarcity and violence are significant. The indirect path thus does not fully mediate the direct effect between experienced scarcity and use of violence, which refutes Hypothesis 5. Before assessing the impact of control variables, it is important to assess the coefficients of determination. Overall the amount of the

[116] CMIN/DF= 2.468; CFI= .995; RMSEA= 0.025

dependent variable's explained variance is low (6, 5%).

3.1.1 Control Variables

As I noted in the previous section, the effect of experienced food scarcity on the use of violence can be shown as an indirect path through policy satisfaction, political trust, state legitimacy and attitudes towards violence, as well as through a direct path between experienced food scarcity and use of violence. Moreover, I conclude that the model has only limited explanatory power as measured by explained variance in the dependent variable. To more accurately estimate the model value, I tested the effect of control variables. This allows for a more explanatory model and for a more accurate assessment of the individual effects of the secondary variables on the dependent variable.

I controlled for gender, level of education and age but only age had a significant effect.[117] The direct effect of age on use of violence is negative though comparatively weak in effect size.[118] While the model did not meet all the minimal model fit indices[119] several sources argue that a CMIN/DF ration up to 5 is acceptable.[120] Moreover the CMIN/DF ratio is not a threshold index. Due to this consideration I will include age as a control on violence in the revised models presented in the following section.

3.2 Revised Model

In this section I compare the revised model with the conceptual model. The initial models confirmed a statistically significant indirect path between experienced food scarcity and violence through policy satisfaction, political trust, state legitimacy and attitudes towards violence. In comparison, the conceptual model included relative satisfaction and inter-communal trust as secondary variables. Including these variables, however, produced a model that did not meet the minimal model fit indices (see Figure 3.3). Consequently, the two variables were dropped from the model. The

[117] The model including age as a control variable met model fit indices. CMIN/DF= 3.927; CFI= 0.979; RMSEA= 0.016
[118] β= -0,041; SE= 0,011; p< 0,05
[119] CMIN/DF= 5,021; CFI= 0,981; RMSEA= 0,041; N= 2399
[120] See Hooper et al. (2005) for an overview

initial models also revealed little support for a possible indirect path between experienced water scarcity and violence. In the revised model I therefore only include the experienced water scarcity variable as a co-variate with experienced food scarcity along with experienced money scarcity.

3.3 The Effect of Moderators on the Revised Model

In this section I use the revised model to test meso- level factors which may moderate the causal paths suggested by the initial models. Using moderator groups allows me to compare across categories of a single moderator variable. Using moderator variables however does not allow for the comparison across the groups of different moderator variables. As such, the differences can only be understood in contrast to the other categories of the same variable.[121] The descriptive analysis in section 2.6.3 showed that levels of reported use of violence differ between moderator groups. This section thus enquires whether the differences found in the descriptive analysis persist in the causal revised model.

3.3.1 Urban and Rural Areas

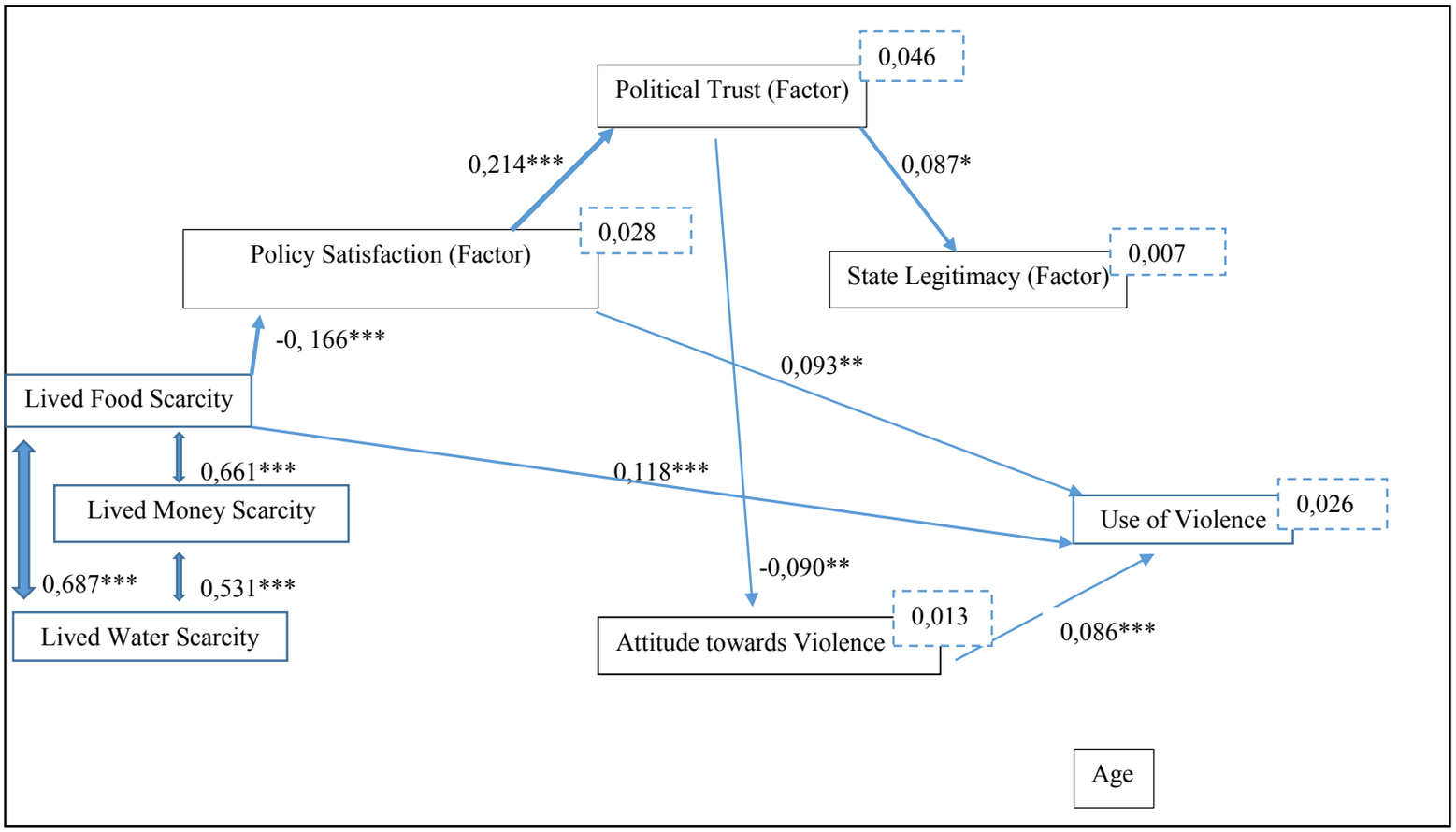
The first moderator distinguishes between respondents who live in urban or rural areas. Figures 3.8 and 3.9 present the results for the revised model when contrasting for groups differences in the moderator group "urban or rural".[122] The revised model shows a number of differences for urban and rural respondents. For both groups a significant indirect and direct path exists between experienced food scarcity and violence. However the effect between state legitimacy and use of violence is only significant for rural respondents and the effect size between policy satisfaction and violence is more than twice as strong in rural areas as it is in urban areas. Moreover the effect size of political trust on state legitimacy is almost twice as strong for rural respondents as it is for rural respondents, albeit the direction of the effect

[121] This means that respondents in urban areas can be compared to respondents in rural areas, but urban area respondents cannot be compared to those who are the same ethnicity as the President.
[122] The revised model met the specified model fit indices. CMIN/DF= 2.986; CFI0.984; RMSEA= 0.029

is positive in both cases. The age group control is only significant for rural respondents.

Although the differences between the urban and the rural group are mostly non- significant[123], it is interesting to note that the direct effects between experienced food scarcity and policy satisfaction and between policy satisfaction and political trust are larger in urban areas compared to rural ones. The direct effect between experienced food scarcity and use of violence is significant and positive for both groups with no significant difference in effect size.

Figure 3.8:- Revised Model for the Urban Sample. The Model met the minimal model fit indices (CMIN/ DF= 2,785, CFI= ,984, RMSEA= 0,027) N= 919.

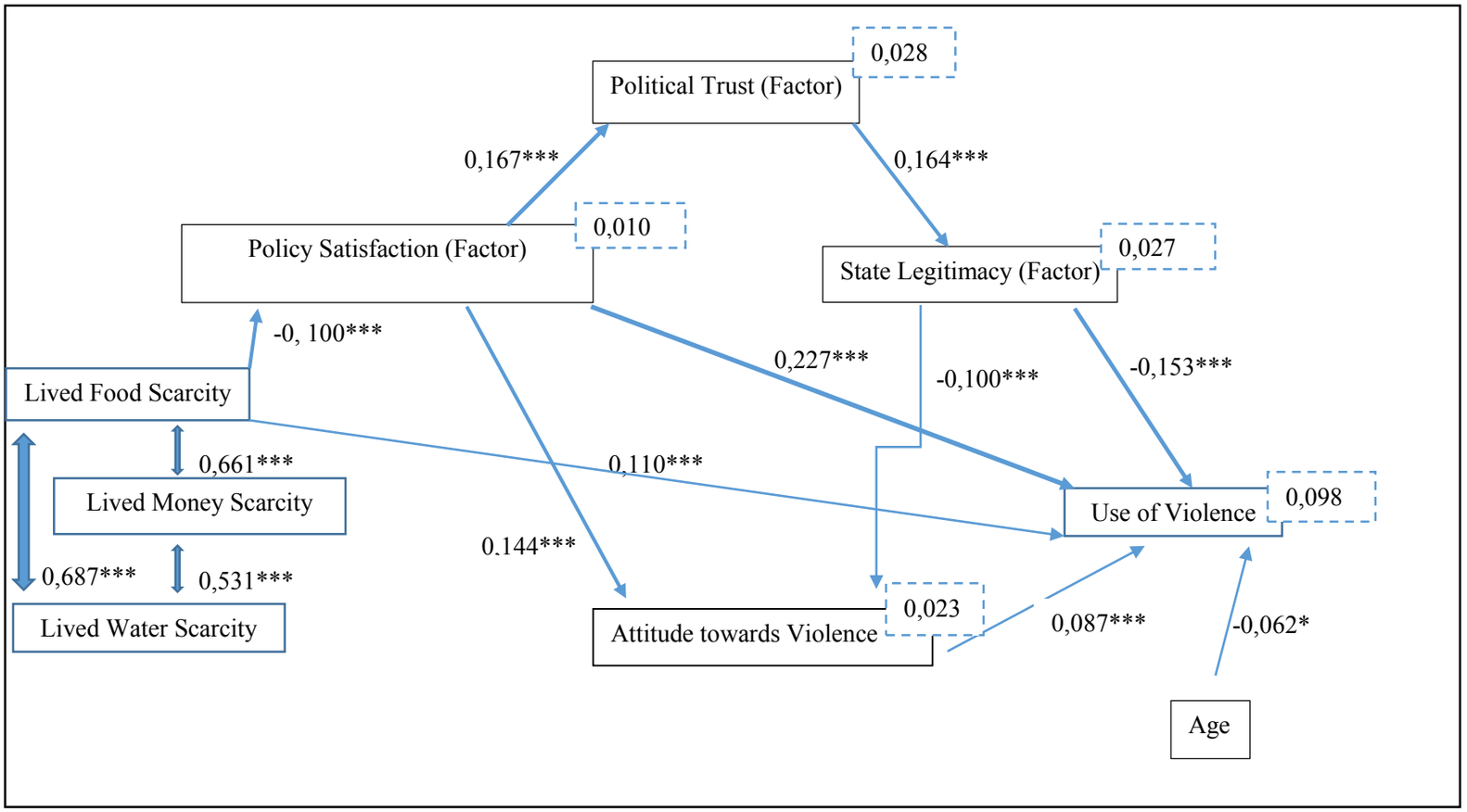


Comparing the squared multiple correlations for urban and rural groups suggests that the model explains more variance

[123] See Appendix 3.3.1 for test of statistical significance of group differences

for the policy satisfaction and political trust variables for urban respondents, and less variance of state legitimacy and violence variables. The opposite is the case for rural respondents. This might indicate that experienced food scarcity is more strongly 'politicized' in urban areas than in rural areas. This intuitively makes sense as those in urban areas more likely rely on political processes to ensure the provision of food while those in rural areas have more direct access to foods and may not as strongly attribute food provisions to political processes.[124]

Figure 3.9: Revised Model for Rural Sample. The Model met the minimal model fit indices (CMIN/DF= 2,785, CFI= 0,984 , RMSEA= 0,027) N= 1480.



Contrarily, the stronger ties between policy satisfaction and use of violence could possibly be explained by a more parochial understanding of democratic processes in rural areas. This is further underlined by the stronger effect size between political trust and state legitimacy and state legitimacy and violence in rural areas than in urban areas which

[124] Examples might include policies regarding markets, infrastructure, transport and pricing.

could indicate a stronger 'personalized' notion of state legitimacy for rural respondents in contrast to more 'abstract' notions of legitimacy for urban respondents.

It appears that in urban areas the effect of political trust on violence is explained through its indirect effect through attitudes towards violence. This is not the case in rural areas. A significant indirect path exists between political trust and violence, but not between political trust and attitudes towards violence. Simply put, political trust impacts violence indirectly in both urban and rural areas. However, in rural areas the indirect linkage is explained through respondents' decline in perceived state legitimacy which in turn impacts their attitudes towards and use of violence. In urban areas political trust also impacts sentiments of state legitimacy, however such sense of legitimacy does not translate into use of violence or attitudes towards violence. The only linkage between political trust and use of violence in urban areas is thus through the effect political trust has on attitudes towards violence.[125]

3.3.2 Relative Ethnic Group Size

The second moderator variable, 'relative ethnic group size' distinguishes between respondents who live in dual- ethnic Regions and respondents who live in either single- ethnic or multi- ethnic Regions.[126]

Figures 3.10 and 3.11 present the revised model for dual- ethnic and multi- or single- ethnic Regions. A closer examination of the stepwise linkages supports Reynal- Querol's (2002) argument, with experienced scarcity's and state legitimacy's effect on violence only being significant in dual- ethnic Regions and the effect being stronger between policy satisfaction and violence in dual- ethnic Regions than in single- or multi- ethnic Regions. This is underlined by the comparison of the squared multiple correlations. The model accounts for more than seven times more variance in the dependent variable in the dual- ethnic Regions than in the single- and multi-ethnic Regions

[126] Dual ethnic regions are regions with exactly two large ethnic groups. Single ethnic regions are regions with exactly one large or majority ethnic group. Multi ethnic regions are regions with several large ethnic groups but no majority ethnic group.

Figure 3.10: Revised Model for Dual- Ethnic Sample. The Model met the minimal model fit indices (CMIN/DF= 3,761, CFI= 0,975, RMSEA= 0,034) N= 880.

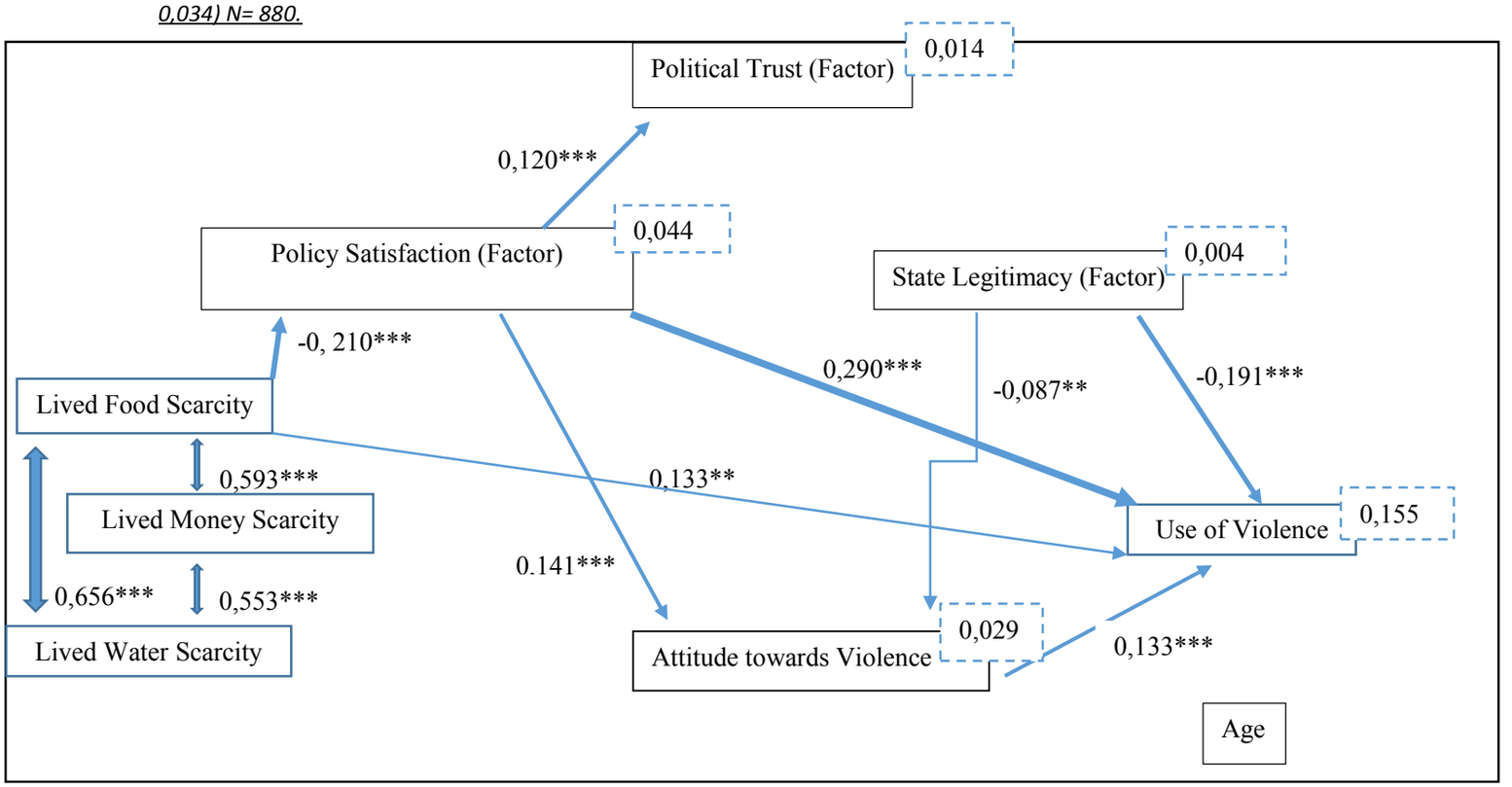
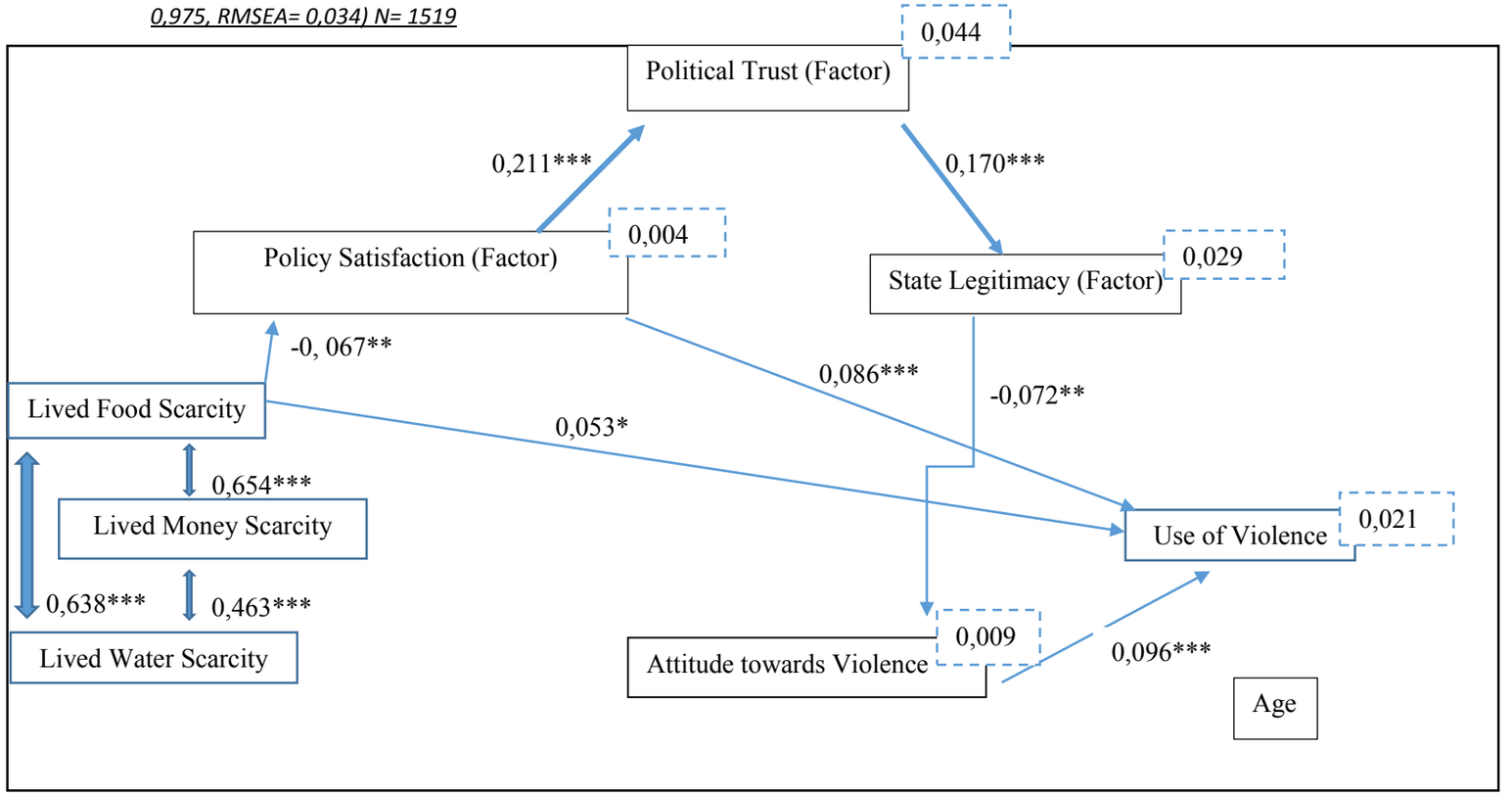
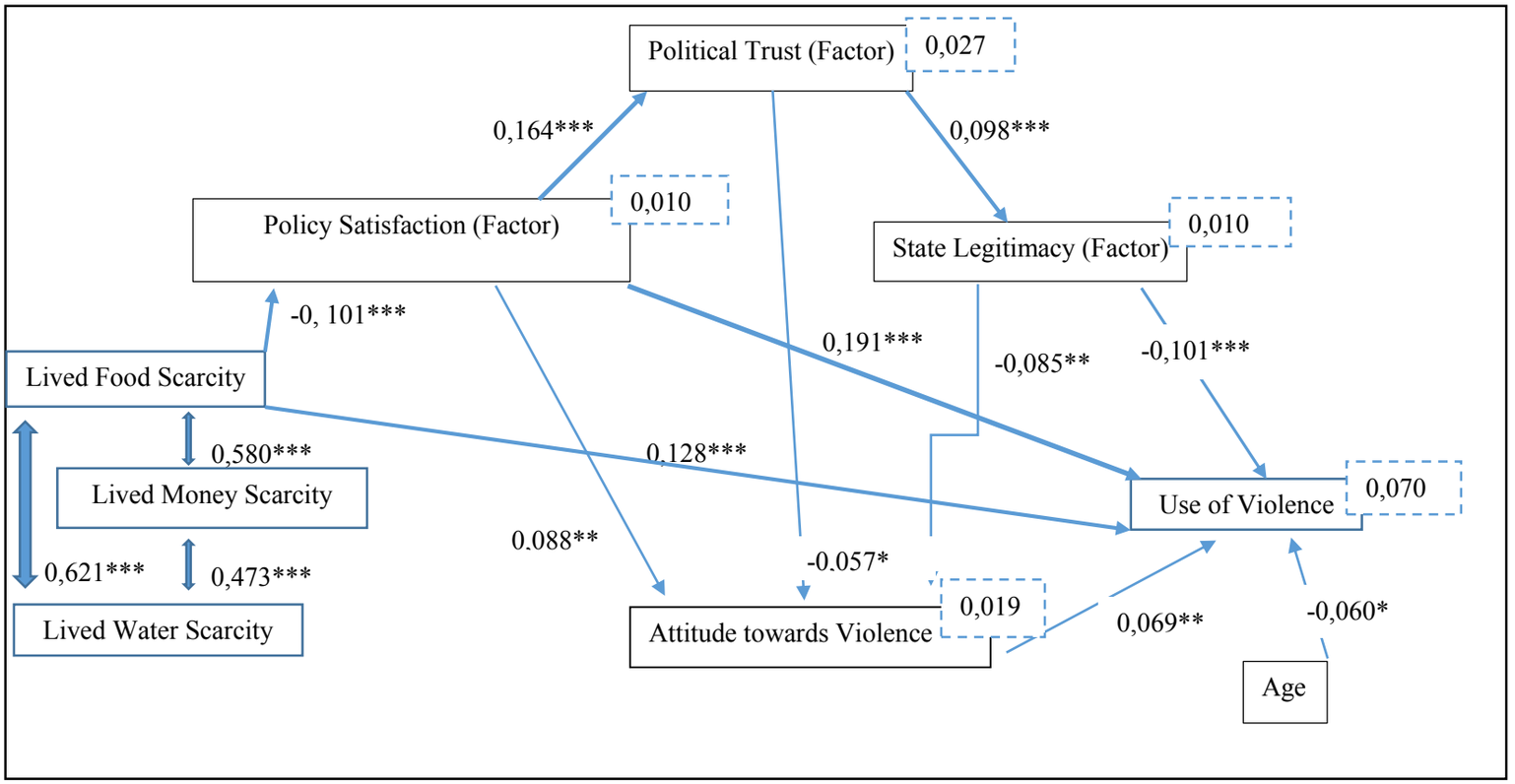


Figure 3.11: Revised Model for Single- and Multi- Ethnic Sample. The Model met the minimal model fit indices (CMIN/DF= 3, 761, CFI= 0,975, RMSEA= 0,034) N= 1519



The second ethnicity based moderator I test is 'absolute ethnic group size'. This moderator was computed to indicate whether a respondent is a member of the largest ethnic group at the regional level or not. In comparison to the 'relative ethnic group size' moderator, it does not acknowledge the relative group size of other ethnic groups in the Region. Figures 5.12 and 5.13 present the group differences for the revised model when moderated by absolute ethnic group size.[127] I find few significant differences and significant indirect and direct effects for both groups.[128] Moreover the proportion of explained variance in the dependent variable is lower and more equal across the two groups when split by absolute group size, rather than relative group size. This further supports Reynal- Querol' s (2002) argument

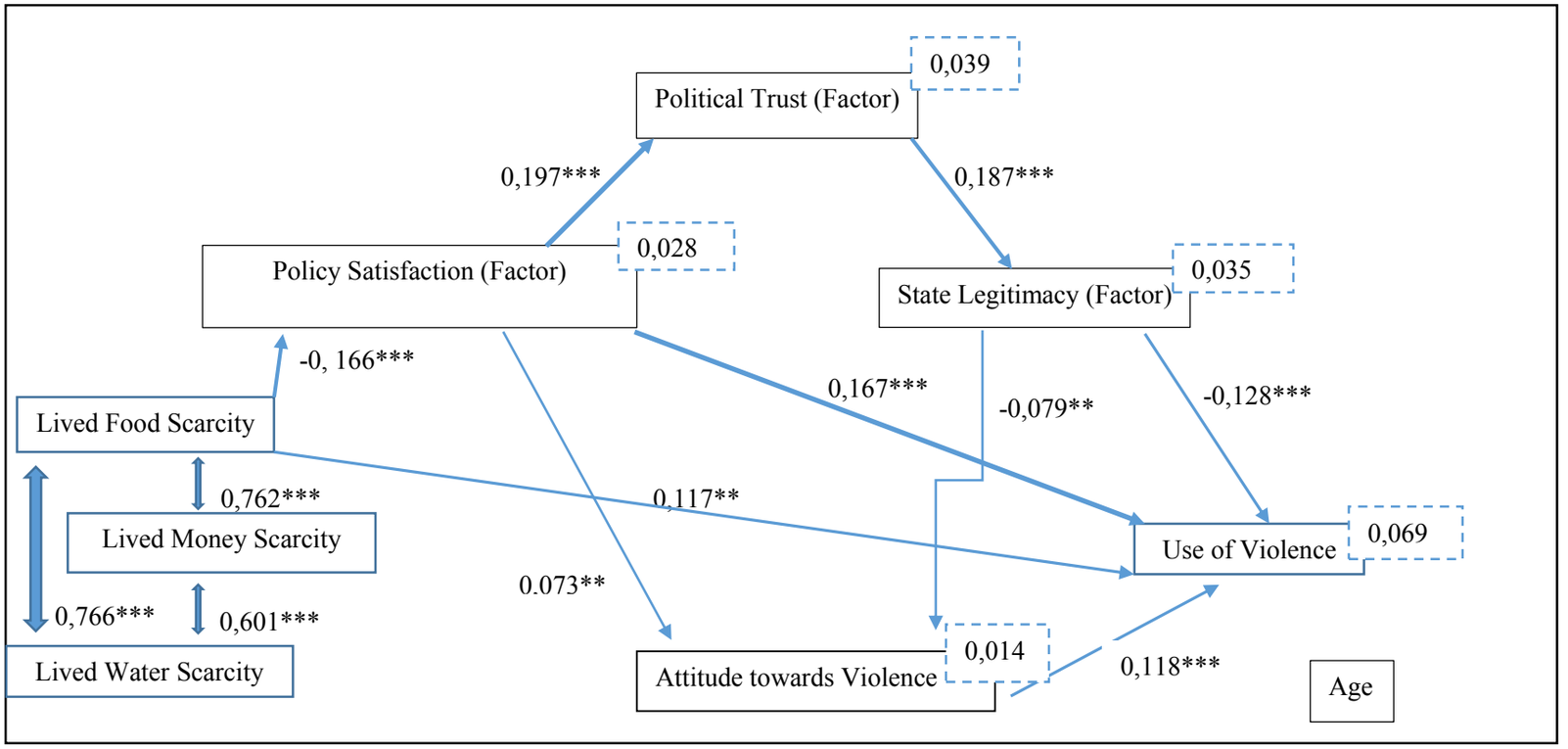
Figure 3.12: Revised Model for Largest Ethnic Group in Region Sample. The Model met the minimal model fit indices (CMIN/DF= 3,284, CFI= 0,979, RMSEA= 0,031) N= 1344.



[127] The model met the minimal model fit indices. CMIN/ DF= 1.927; CFI= .995; RMSEA= 0.020.

[128] See Appendix 3.3.11

Figure 3.13: Revised Model for Non- Largest Ethnic Group in Region Sample. The Model met the specified model fit indices (CMIN/DF= 3,284, CFI= 0,979, RMSEA= 0,031) N= 1022



3.3.4 Shared Ethnicity with the President

The third ethnic moderator, groups respondents who are of same ethnicity as the Kenyan President, Mwai Kibaki (Kikuyu ethnicity), and those who are of other ethnicity. As highlighted in the literature review in Chapter 2, Kenya has a history of ethnic rivalry and political clientelism which underlines the importance of testing a possible moderation effect of co-ethnicity with President Kibaki on the causal path model.

The revised model met the model fit indices when using co- ethnicity as a moderator.[129] Examining Figures 3.14 and 3.15, differences between the moderator groups become apparent.[130] No significant direct or indirect path between experienced scarcity and violence could be modelled for co- ethnic respondents. In contrast, I found significant direct and indirect paths for the non- co- ethnic group. Interestingly the effect of policy satisfaction is more strongly linked to political trust for co- ethnic respondents than for non-co- ethic respondents.

[129] CMIN/ DF= 3,940; CFI=. 973; RMSEA= 0. 035
[130] For the test of statistically significant differences see Appendix 3.3.16

Figure 3.14: Revised Model for Sample of Respondents of same ethnicity as President Kibaki. The model met the specified model fit indices (CMIN/DF= 3,940, CFI= 0,973, RMSEA= 0,035) N= 480

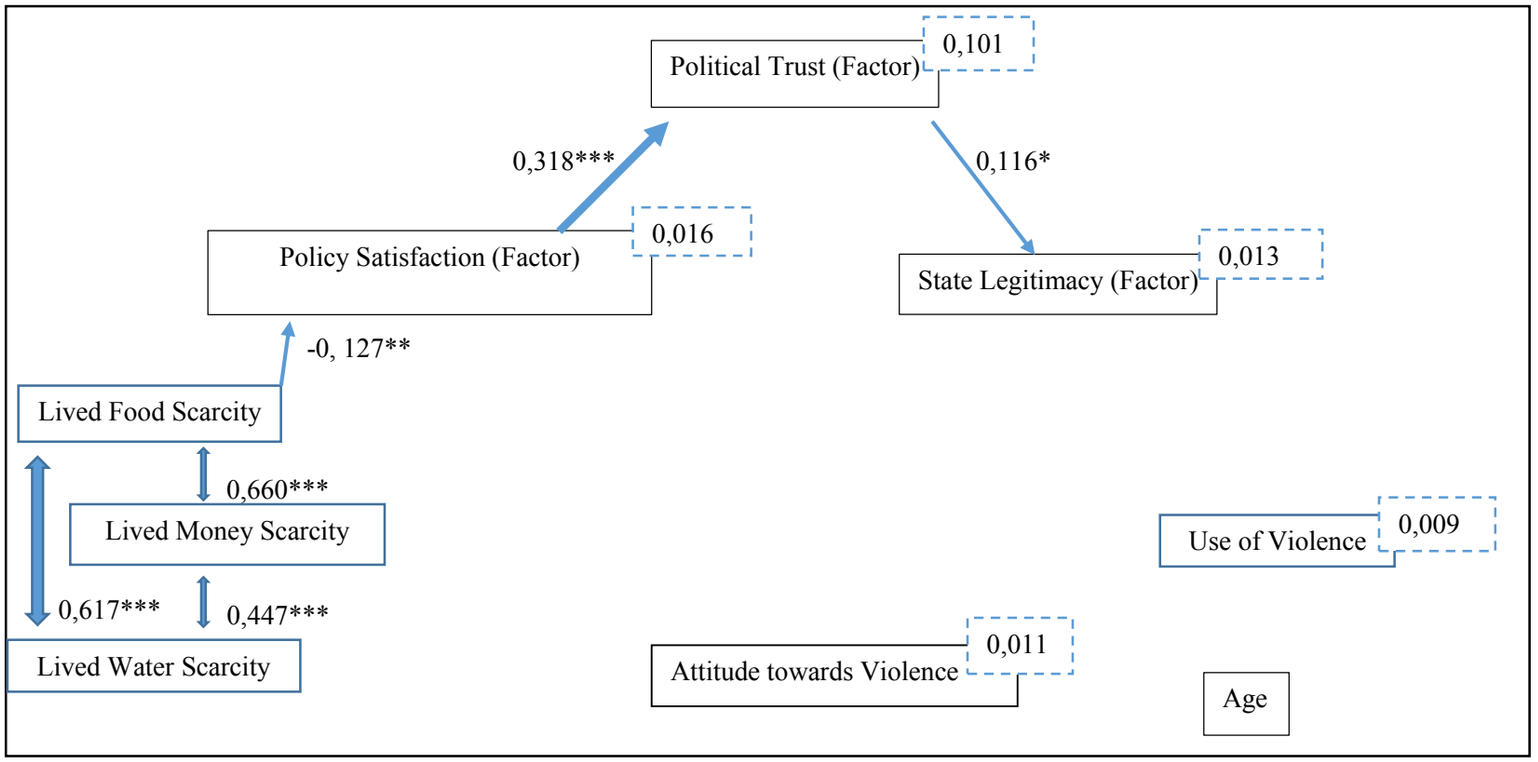
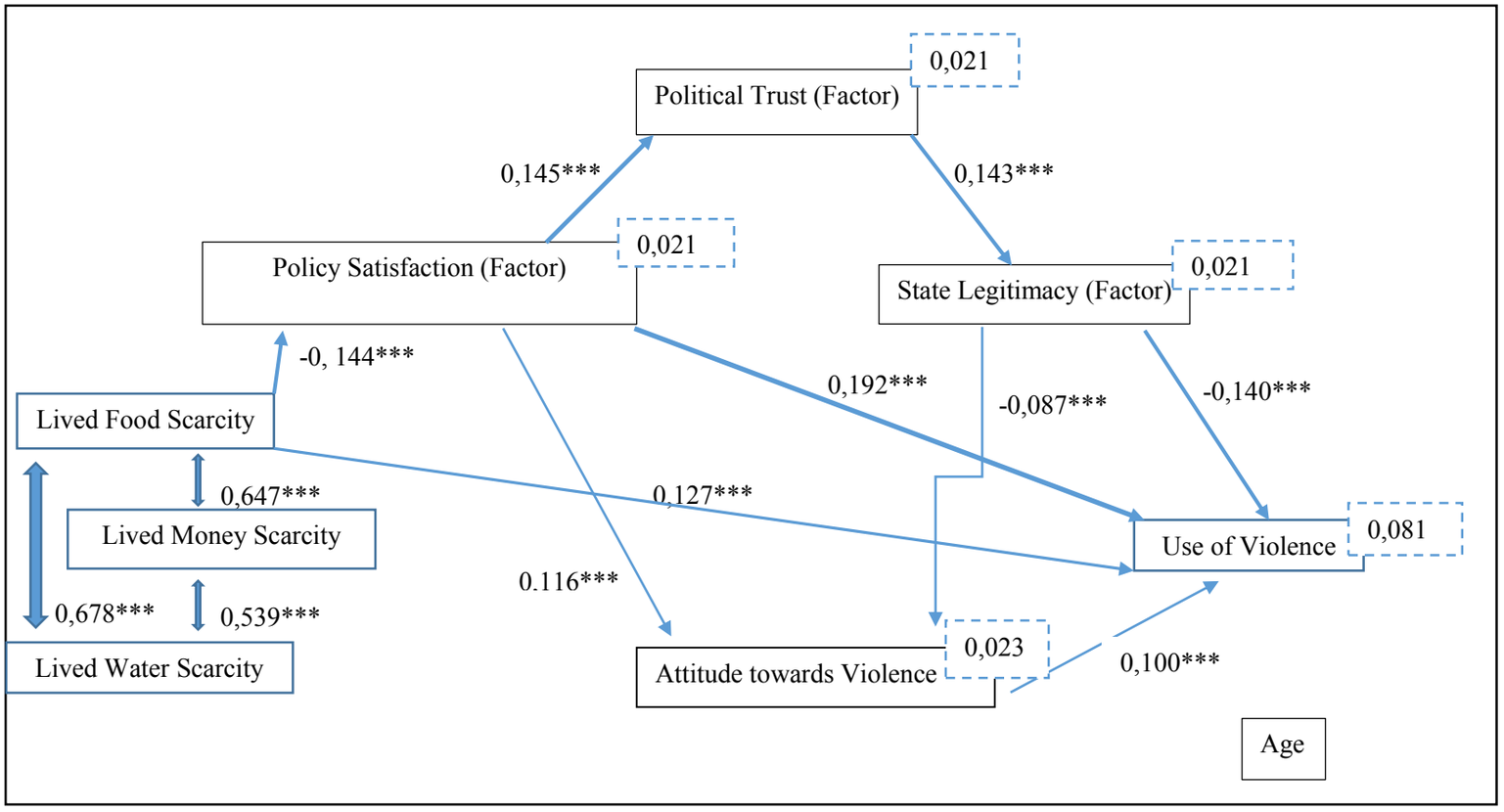


Figure 3.15: Revised Model for Sample of respondents who are a different ethnicity as President Kibaki. The Model met the specified model fit indices (CMIN/DF= 3,940, CFI= 0,973, RMSEA= 0,035) N= 1881.



This may point towards sentiments of expected or experienced clientelism based on ethnicity.

In conclusion the revised models above have shown that the causal paths between experienced scarcity and use of violence differ significantly when contrasting different sub- samples. While some revised models showed strong linkages between experienced scarcity and use of violence (e.g. dual- ethnic Regions), the revised model suggested no or weak linkages for other sub- samples, especially for respondents who are the same ethnicity as President Kibaki.

The importance of meso- level factors on the causal model is moreover emphasized comparing the share of variance accounted for in the revised models, respectively.

As table 3.4 below shows, the revised model varies considerably in its predictive power when contrasting sub- samples. For the dependent variable the proportion of explained variance ranges from less than 1 % (same ethnicity as President sub sample) to more than 15 % (dual- ethnic Region Sample).

Table 3.4: Proportion of Variance (Squared Multiple Correlations) in the Secondary and Dependent Variables accounted for by the revised model when split by moderator variables.

	Urban	Rural	Dual-Ethnic Region	Multi-Ethnic Region	Largest Ethnci Group	Non-Largest Ethnci Group	Same Ethnicity as President	Different Ethnicity to President
	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
Policy Satisfaction	0,028	0,01	0,044	0,004	0,01	0,028	0,016	0,021
Political Trust	0,046	0,028	0,014	0,044	0,027	0,039	0,101	0,021
State Legitimacy	0,007	0,027	0,004	0,029	0,01	0,035	0,013	0,021
Attitude towards Violence	0,013	0,023	0,029	0,009	0,019	0,014	0,011	0,023
Use of Violence	0,026	0,098	0,155	0,021	0,07	0,069	0,009	0,081

The revised models in this section strongly emphasize the importance of meso level factors on the causal linkages between experienced scarcity and use of violence. Moreover the revised models support the need for further disaggregation of the applied research design and operationalization in this field of research. This need had been noted in previous work and is underlined by that findings in the models above.

3.4 Explaining the Differences

In section 3.3 I found that the revised model performs differently once meso- level factors are included as moderating effects. In this section I test additional sub- models in which I seek to explore what causes such differences to appear. From the path analyses in the previous section it appears that the differences between the sub- samples grouped by absolute ethnic group size are small. For this reason I dropped the 'absolute ethnic group size' moderator. In the following I thus limit my analysis to the models moderated by 'urban and rural areas', 'relative ethnic group size' and 'co- ethnicity with President Kibaki'.

3.4.1 Urban / Rural Areas

The revised model in section 3.3 suggests that linkages between experienced scarcity and use of violence are particularly important in rural areas and less in urban areas. Additional factors might however underlie such findings and help explain such differences. I test two sub- models to gauge more closely what exactly it is about 'being urban' or 'being rural' that possibly causes these differences. I focus on the presence of police and inter-communal trust.

Adano et al. (2012) argue that weak government presence in remote areas might contribute to rural scarcity induced violence. As Figure 3.16 shows for Kenya in 2011, reported police presence is twice as high in urban areas than in rural areas.[131]

[131] I use the term 'reported police presence' as the variables I employ are based on interviewer experience of police presence in the sampling unit while conducting the interviews. The variable thus does not reflect governmental data on police presence per sampling unit or administrative unit.

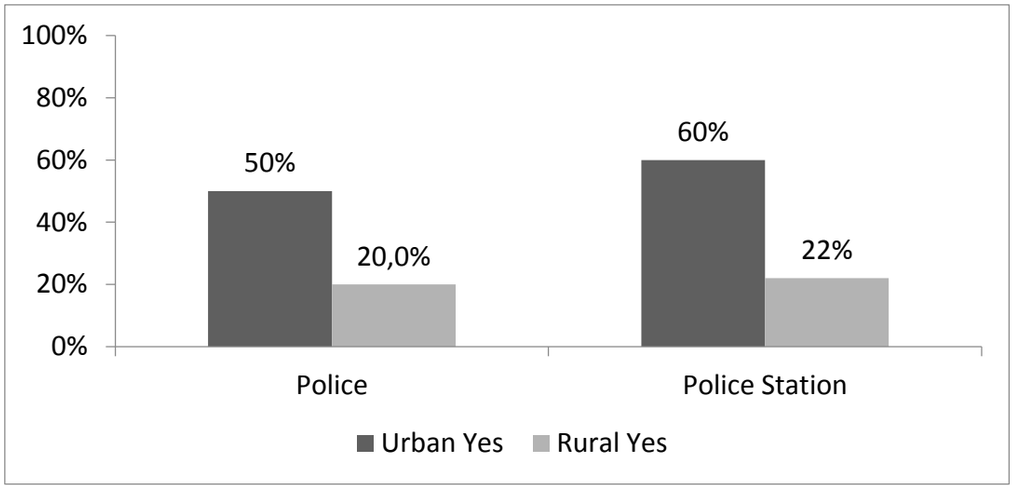


Figure 3.16: Presence of Police Personnel and Police Station in the sampling unit split by Urban and Rural areas.[132]

To test the effect of police presence on use of violence, I included the presence of police personnel and having a police station in the sampling unit area as exogenous variables with direct effects on the use of violence. Both variables are coded as dummy variables to indicate presence or non- presence. The presence of police personnel produced a significant negative effect on violence in rural areas[133], indicating a deterring effect.[134] There was no effect for urban areas which supports Adano et al (2012). Including the effect of a police station on use of violence slightly reduced the effect size of policy satisfaction and state legitimacy on violence however the effects remain statistically significant.[135] The increase in explained variance in the dependent variable compared to the revised model confirms the validity of including such a control factor in the model (Table 3.5).

Table 3.5: Squared Multiple Correlations without control and with control (Police station in sampling unit)

	Urban Area		Rural Area	
	No Police	Police	No Police	Police
Political Satisfaction	0.028	0.028	0.161	0.01
Political Trust	0.046	0.046	0.028	0.028
State Legitimacy	0.007	0.007	0.027	0.027
Attitude towards Violence	0.013	0.011	0,023	0,023
Use of Violence	0.026	0.027	0.098	0.103

[132] Note that these conditional items are compiled by the interviewer, not the respondent. Note that both police stations in the sampling unit and within walking distance were considered.
[133] (B= -0,058*(SE= 0,033))
[134] The model met specified model fit indices. CMIN/ DF= 3.125; CFI= .977; RMSEA= 0.030
[135] See Appendix Table 3.4.1 for unstandardized Regression Weights of Revised Model controlling for Police Stations in the Sampling Area.

Figure 3.17: Revised Model for Urban Sample including Police Station as a control on use of violence. The Model met the minimal model fit indices (CMIN/DF= 2,822, CFI= 0,976, RMSEA= 0,028) N= 919.

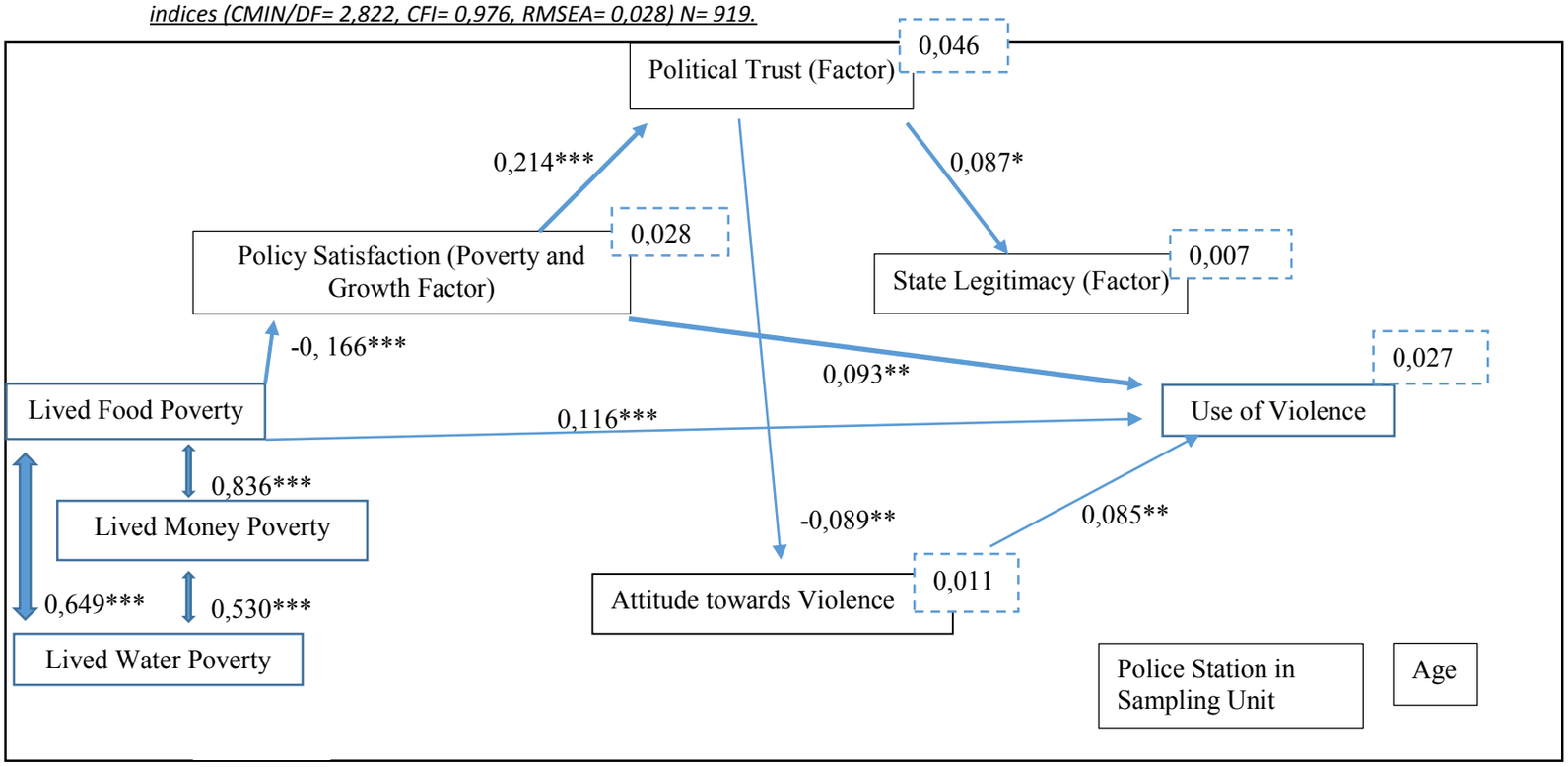
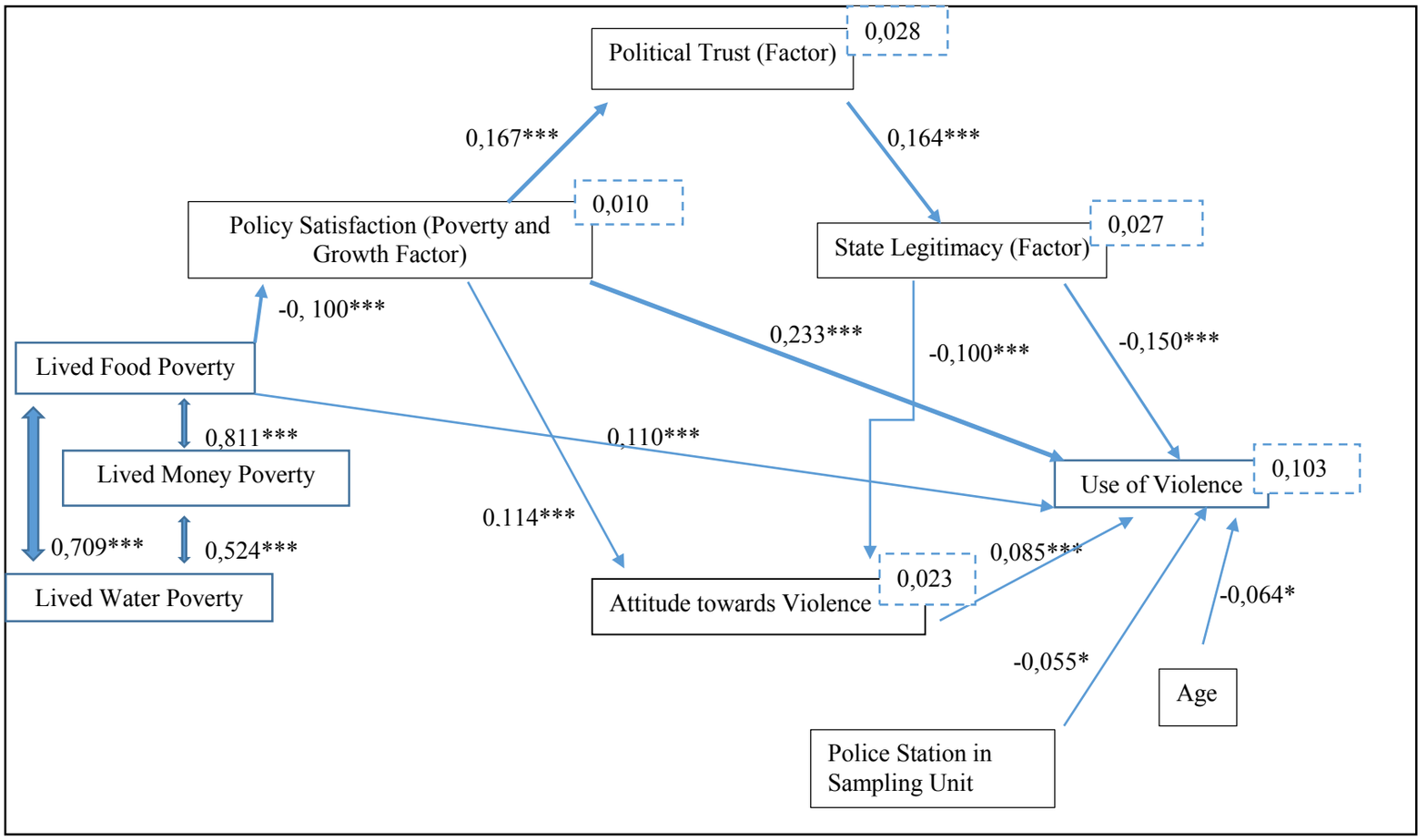


Figure 3.18 Revised Model for Rural Sample including Police Station as a control on use of violence. The Model met the minimal model fit indices (CMIN/DF= 2,822, CFI=, 976, RMSEA= 0,028) N= 1480



I then tested the direct effect of police personnel in the sampling unit on the use of violence.[136] As with police stations, the presence of police personnel only had a significant effect in rural areas.[137] Moreover the inclusion of the control weakened the direct effects of policy satisfaction and state legitimacy on violence. These effects were nonetheless statistically significant. The inclusion of police personnel in the model moreover increased the explained variance in the dependent variable suggesting its relevance in explaining the use of violence.

Table 3.6: Squared Multiple Correlations without control and with control (Police personnel in sampling unit).

Squared Multiple Correlations:

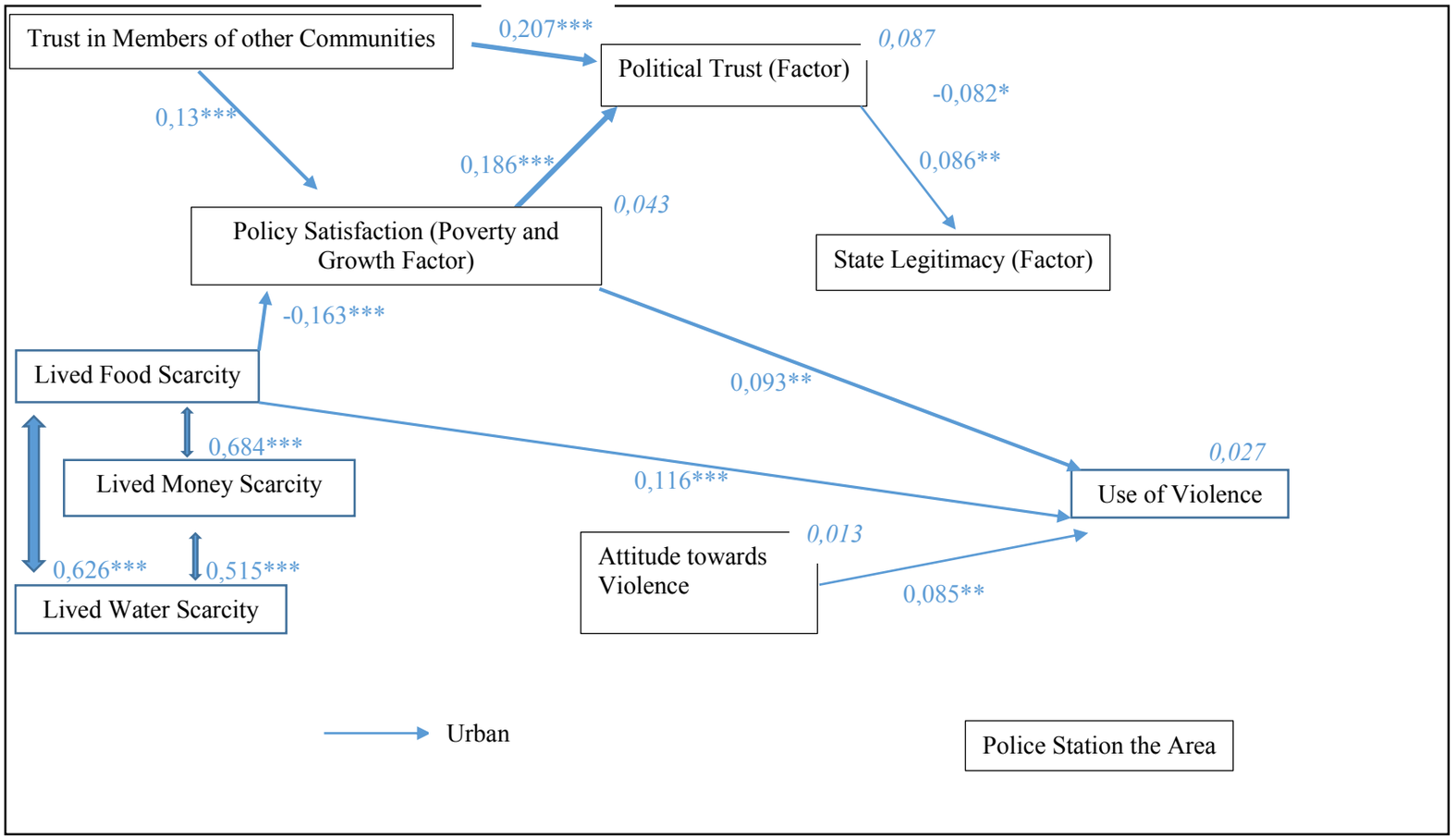
	Urban Area		Rural Area	
	No Police	Police	No Police	Police
	Estimate	Estimate	Estimate	Estimate
Political Satisfaction	0.028	0.028	0.161	0.01
Political Trust	0.046	0.046	0.028	0.028
State Legitimacy	0.007	0.007	0.027	0.027
Attitude towards Violence	0.013	0,011	0,023	0,023
Use of Violence	0,029	0.029	0,098	0,104

A third sub- model tests the role of inter- communal trust. Inter-communal trust was dropped from the initial models as the model did not meet the minimal model fit indices for the full sample. However, Kasara (2013) argues that inter-communal trust is higher in densely populated areas due to a higher rate of inter-communal interaction. In less populated areas communities are likely to live in ethnically homogenous groups or communities and thus inter-communal interaction is assumed to be less. To examine this argument I included trust in members of other communities as an exogenous variable with direct effects from inter-communal trust to policy satisfaction, political trust and attitudes towards violence. Figures 3.19 and 3.20 present the models for both moderator groups.[138] There appear to be no significant differences between urban and rural areas regarding the effect of inter-communal trust on

[136] The model met the specified model fit indices. CMIN/ DF= 3.078; CFI= .973; RMSEA= 0.029 See Appendix 3.4.6 for Revised Model when controlling for the Police Personnel in Sampling Area.
[137] (B= -0,049; SE= 0,033; p< 0,05)
[138] Initially the model was run including age and police station as control variables on use of violence. This model however did not meet the minimal model fit indices. For considerations of explaining the differences I decided to drop age from the model. I believe that while age does have a significant effect on use of violence in general, it does not further our understanding of why differences between urban and rural sub- samples exist. The model was rerun using only police station as a control in use of violence. The model met the specified model fit indices. CMIN/DF= 1,967; CFI= 0,989; RMSEA= 0,020.

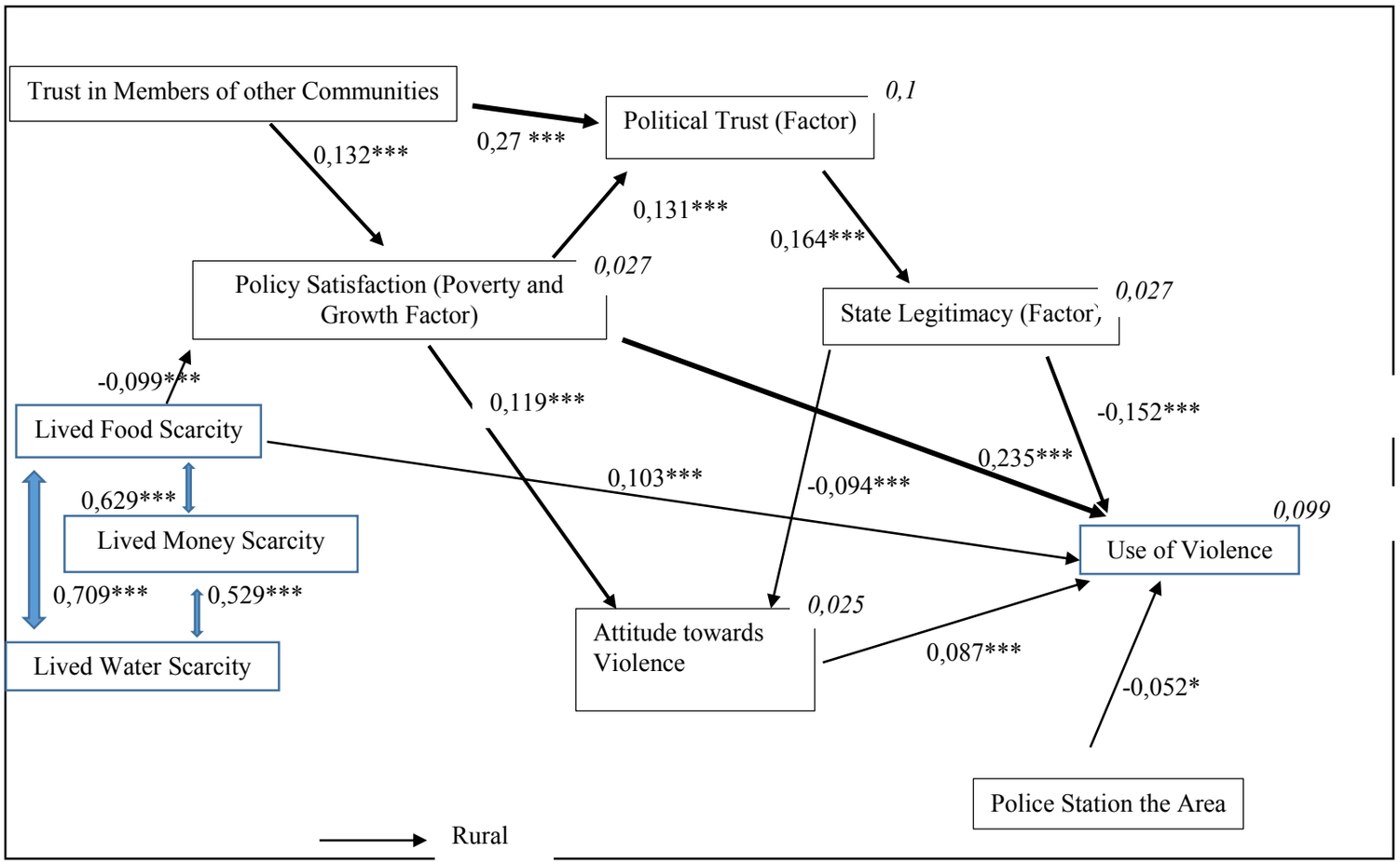
policy satisfaction and inter-communal trust and political trust, respectively.[139] However in both cases the effects are significant and positive. This underlines the importance of inter-communal trust in urban and rural areas, but does not further the understanding of what exactly it is about being 'urban' or being 'rural' that explains the different ways in which the models performs.

Figure 3.19: Revised model for Urban Sample testing 'trust in Members of other communities' as an endogenous variables to the model. The model met the specified model fit indices (CMIN/DF= 1,967; CFI= 0,989; RMSEA= 0,020) N= 919.



[139] See Appendix 3.4.11 for comparison of unstandardized regression weights

Figure 3.20: Revised model for Rural Sample testing 'trust in Members of other communities' as an endogenous variables to the model. The model met the specified model fit indices (CMIN/DF= 1,967; CFI= 0,989; RMSEA= 0,020) N= 1480.



While including inter-communal trust has doubled the explained variance in political trust in urban areas, it has almost quadrupled the amount of variance explained in rural areas. This indicates that inter-communal trust is a stronger determinant of political trust in rural areas than in urban areas. Even though the explained variance in the use of violence remains modest, this finding may suggest the need for further enquiry into the different ways in which political trust is derived in urban and rural areas.

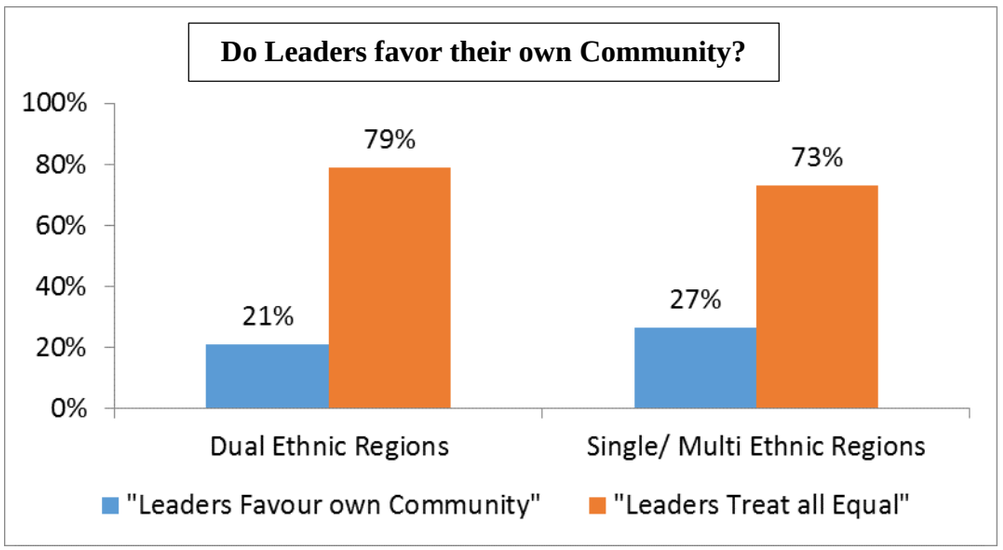
The revised models suggest that violence is especially influenced by conditional factors in rural areas and less affected in urban areas. The models support Adano et al. (2012) by highlighting the role of police presence in rural areas.

Moreover the models suggest that inter-communal trust has a larger impact on the causal paths in rural than in urban areas. Although the models remain limited in explaining the variance in the dependent variable, they indicate statistically significant differences and thus support disaggregation of the level of analysis and testing of meso- level factors.

3.4.2 Relative Regional Ethnic Group Size

As noted in Chapter 2, levels of reported use of violence differ considerably between respondents in 'dual- ethnic' Regions and those in 'single-'or 'multi- ethnic' Regions. I found that these differences between the two types of Regions also pertain to the causal path models, which explained more variance in the dependent variable for dual-ethnic than for single- or multi- ethnic Regions. I test two sub- models to explain these differences between the moderator groups by examining the role of perceived favouritism of leaders and peoples' evaluation of their personal situation relative to others.

Figure 3.21: Percentage of respondents who agree or agree strongly with either statement split by relative ethnic group size moderator.



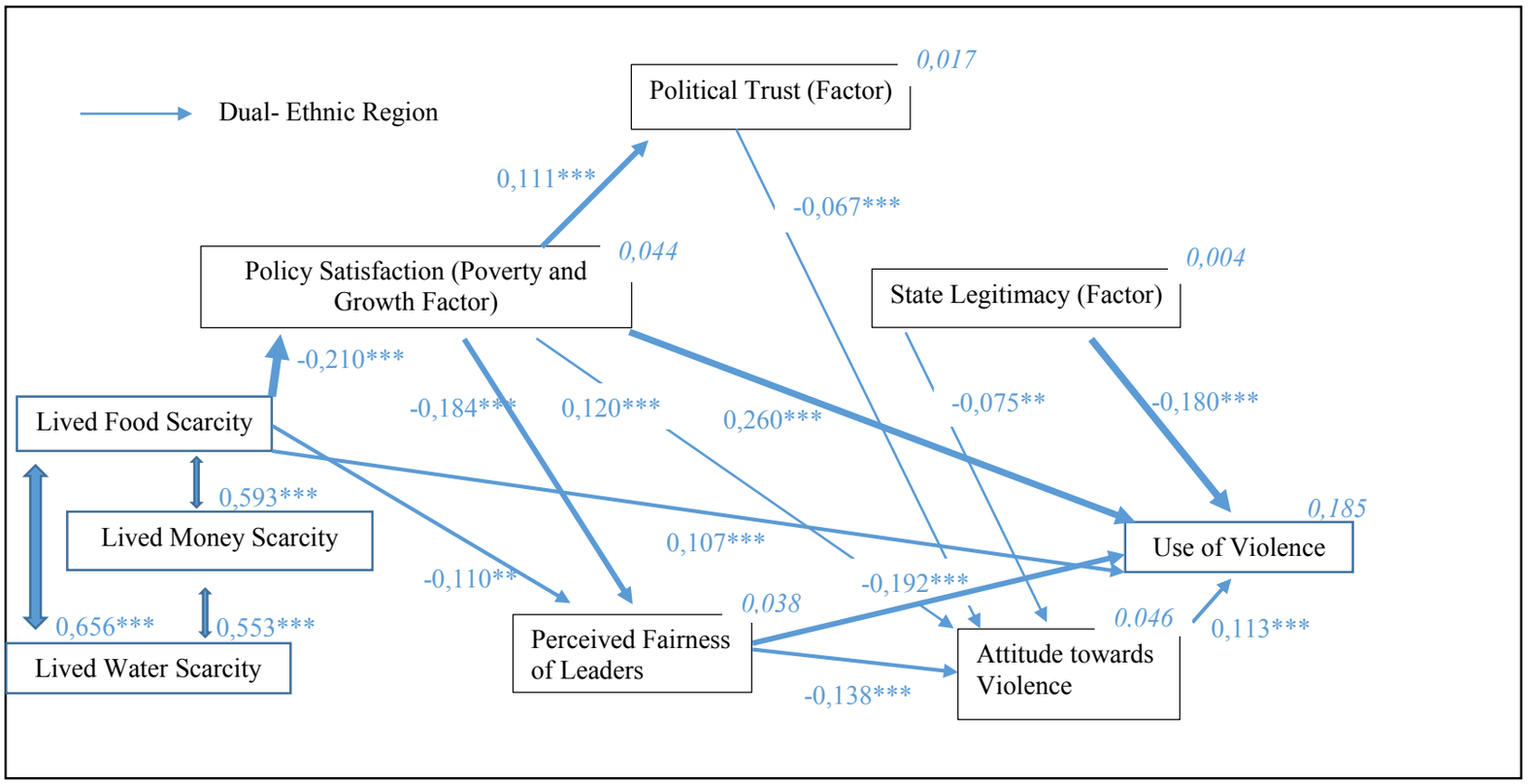
To explore the notion of increased competition in dual- ethnic Regions I first ran the revised model including perceptions of fairness of leaders as an endogenous variable. The question item asks respondents to evaluate whether

they feel leaders treat all equal or whether they feel leaders favor their own community. Figure 3.20 shows that respondents in dual- ethnic Regions perceived leaders to treat all equal more often than respondents in single- or multi- ethnic Regions, albeit only slightly more. This appears unexpected as, following Reynal- Querol's (2002) argument, ethnic competition should be higher in dual- ethnic Regions which would be expected to reflect in the data as higher perceptions of favoritism in such Regions. I included the variable as a mediator between experienced food scarcity and use of violence and between policy satisfaction and use of violence.

Figures 3.22 and 3.23 presents the revised model for the two moderator groups.[140] Direct significant negative effects appear to exist between experienced scarcity and perceived fairness and between perceived fairness and violence in dual- ethnic Regions. This means that higher perceptions of leader fairness significantly predict lower levels of violence. No significant effects exist between perceived fairness of leaders and violence in single- or multi- ethnic Regions. In addition, the relevance of perceived fairness is highlighted by comparing the squared multiple correlations. The inclusion of perceived fairness has increased the explained variance in the dependent variable for dual- ethnic Regions but has made no difference in single- or multi- ethnic Regions.

[140] The model met the minimal model fit indices (CMIN/ DF= 2.721; CFI= .989; RMSEA= 0.027). The model was initially tested including the control variables age group, gender and level of education. This model however did not meet the model fit indices. The control variables were then included individually, however no model met the model fit indices.

Figure 3.22: Revised model split for Dual-Ethnic Region Sample. 'Perceived fairness of leaders' is included as an endogenous variables predicted by Lived Food Poverty and Policy Satisfaction and predicting Attitudes towards and Use of Violence. The model met the specified model fit indices (CMIN/ DF= 2.708; CFI= .987; RMSEA= 0.027), N= 880.[141]



This suggests competition being stronger and more intense in dual- ethnic Regions. Moreover the negative significant indirect effects linking experienced scarcity with the use of violence through perceived fairness point to the heightened potential of violence in these Regions if behavior by political leaders is unable to mitigate such effects or actively perpetuates unequal and preferential policy.

[141] For Comparison of Unstandardized Regression Weights see Appendix 3.4.16

Figure 3.23: Revised model for Single- and Multi- Ethnic Region Sample. 'Perceived fairness of leaders' is included as an endogenous variables predicted by Lived Food Poverty and Policy Satisfaction and predicting Attitudes towards and Use of Violence. The model met the specified model fit indices (CMIN/ DF= 2.708; CFI= .987; RMSEA= 0.027), N= 1519

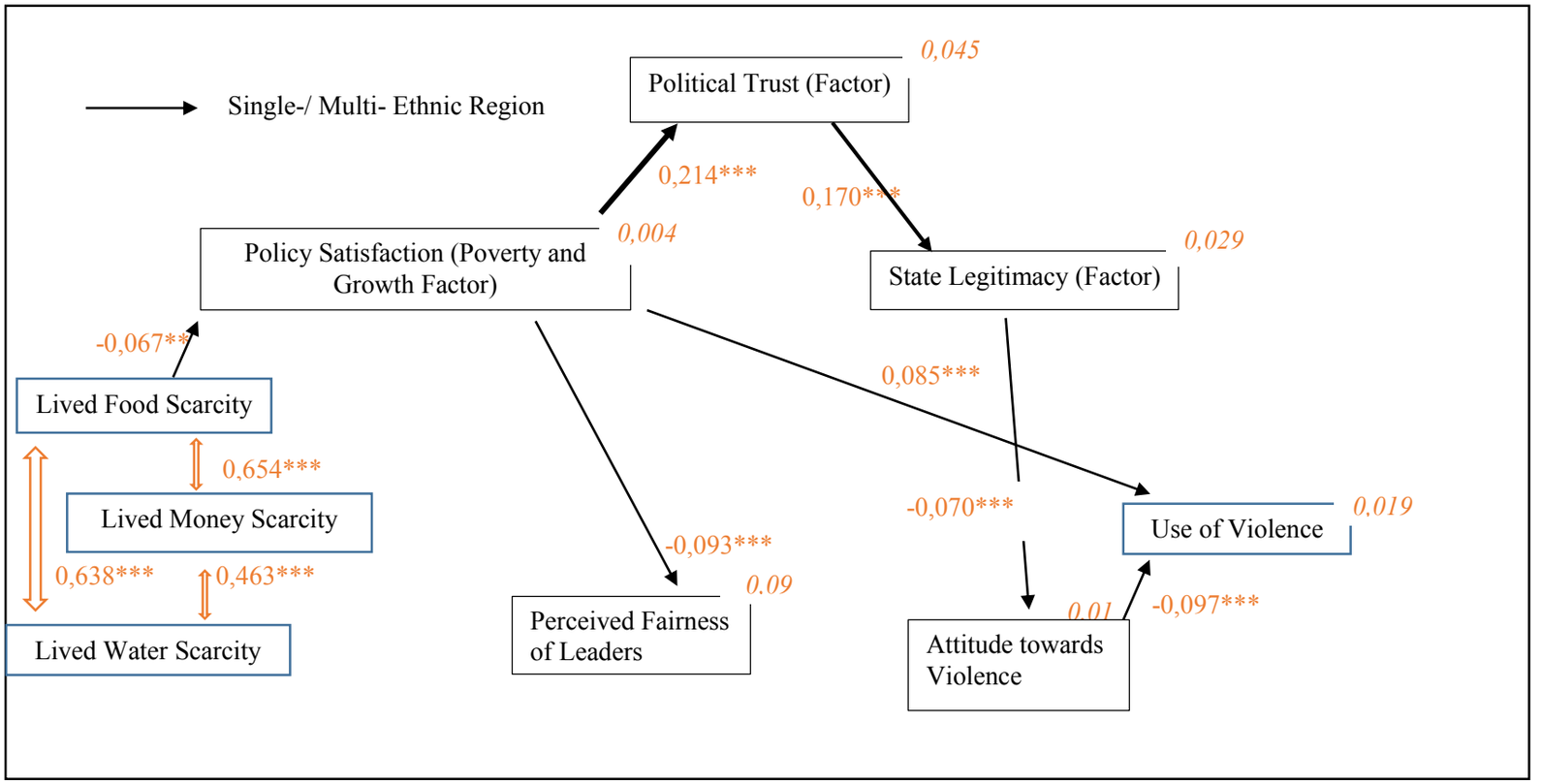
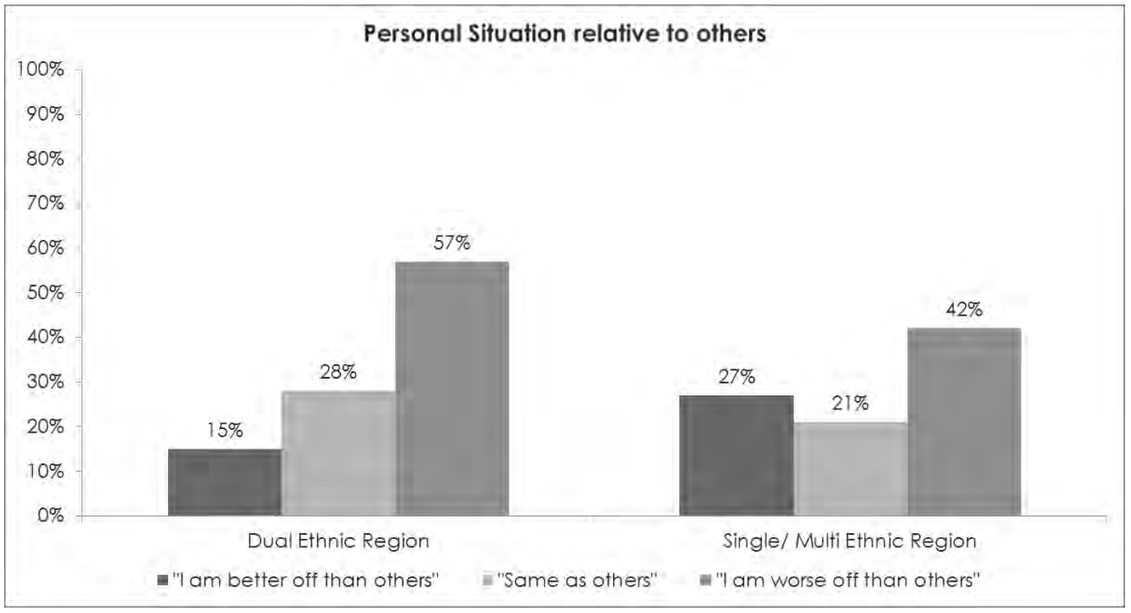
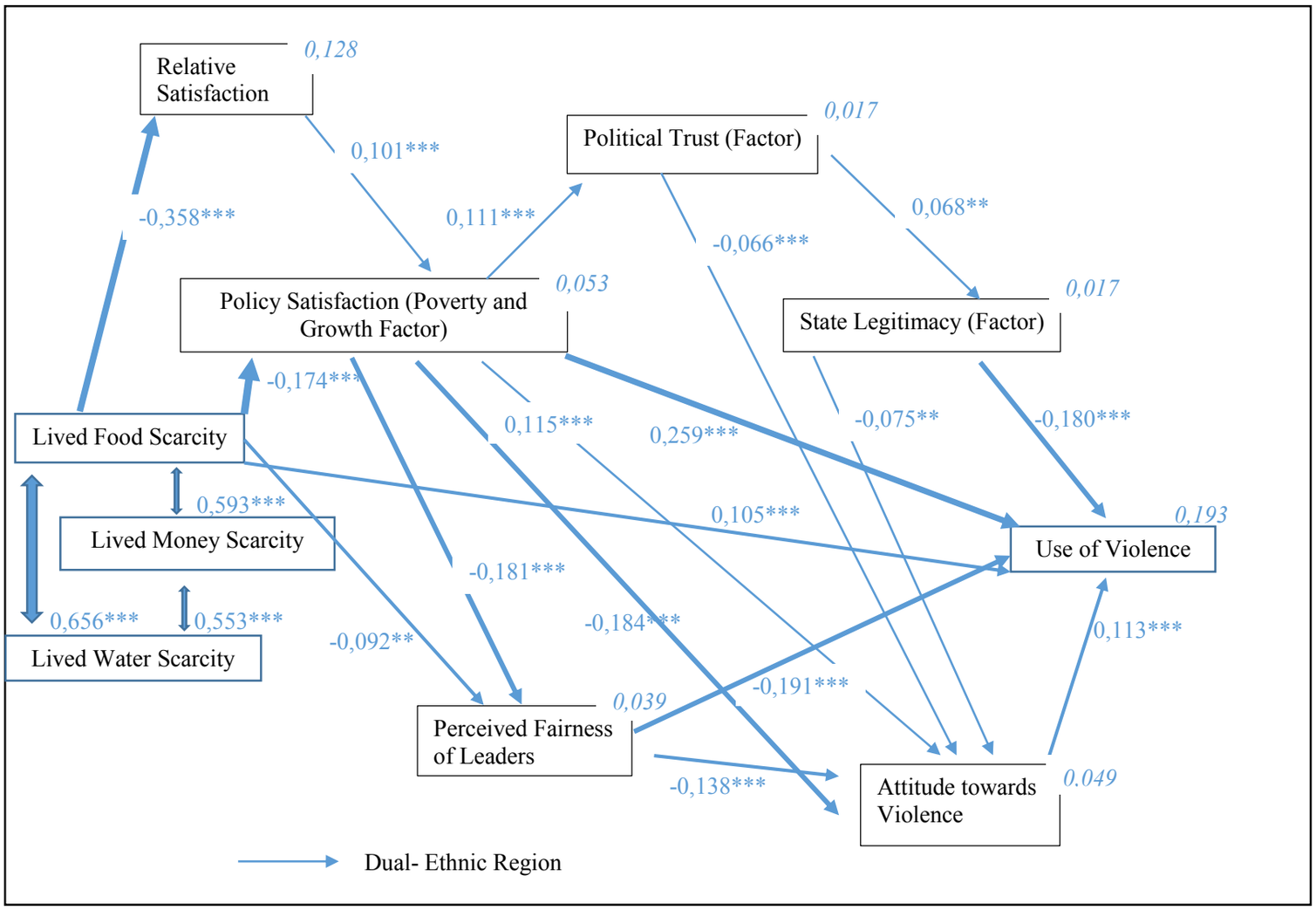


Figure 3.24: Respondents' evaluation of their personal situation relative to others, split by relative ethnic group size



I then included relative satisfaction in the model to assess whether it had an effect on the explanatory value of the model. Figure 3.24 displays that a higher percentage of respondents feel they are worse off than others in dual- ethnic Regions than in single- or multi- ethnic Regions. This could indicate a stronger sense of 'winners and losers' in dual-ethnic Regions, a notion described by Homer- Dixon resulting from scarcity and could explain why levels of violence are higher in dual- ethnic Regions than other Regions. I included relative satisfaction as being predicted by experienced food scarcity and predicting policy satisfaction, political trust and perceived fairness of leaders.

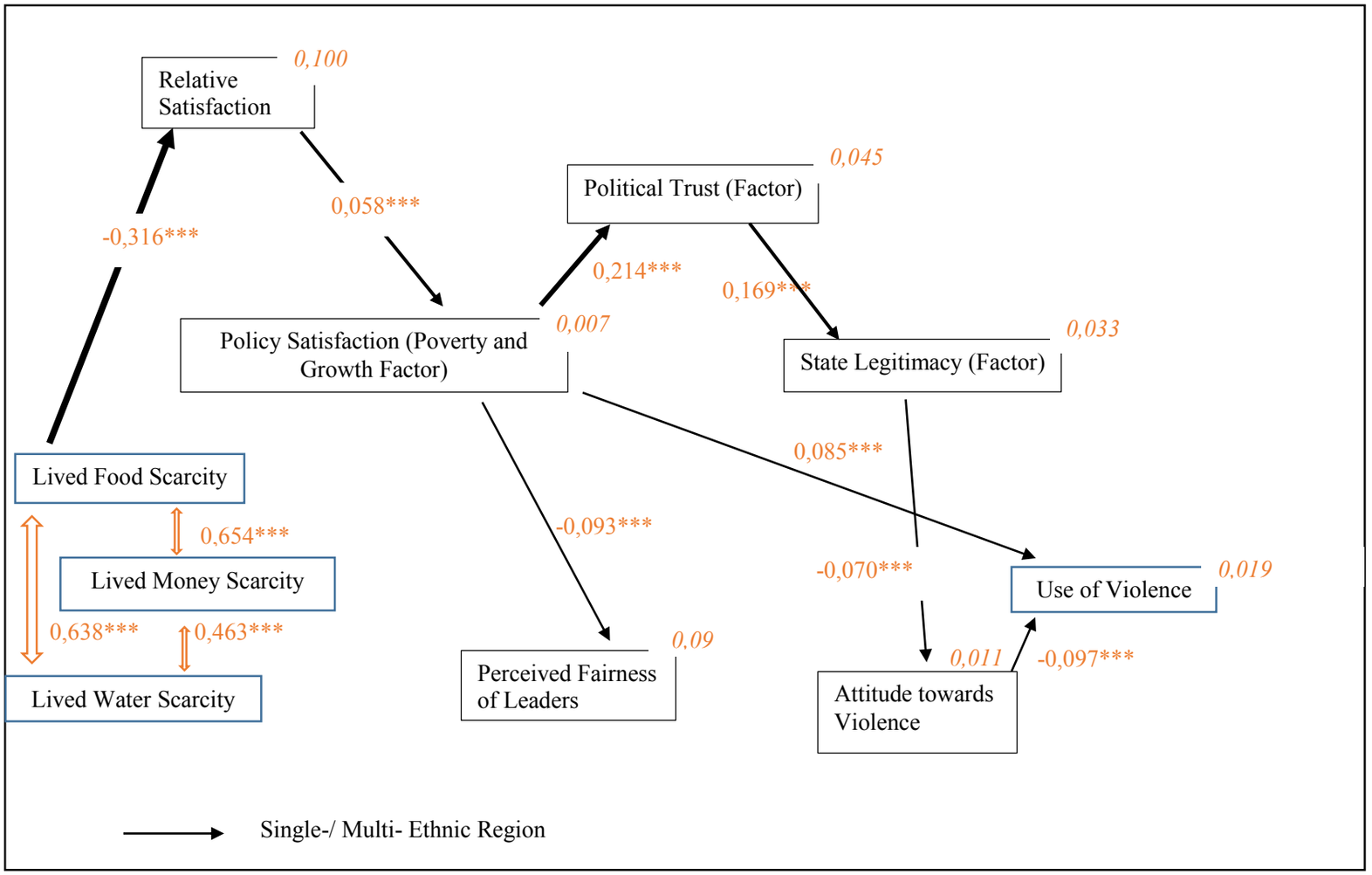
Figure 3.25: Revised model for Dual- Ethnic Region Sample. 'Relative Satisfaction' is included as an endogenous variables to the previous model. The model met the specified model fit indices (CMIN/ DF= 2.720; CFI= .985; RMSEA= 0.027), N= 880[142]



[142] For comparison on Unstandardized Regression Weights see Appendix 3.4.21

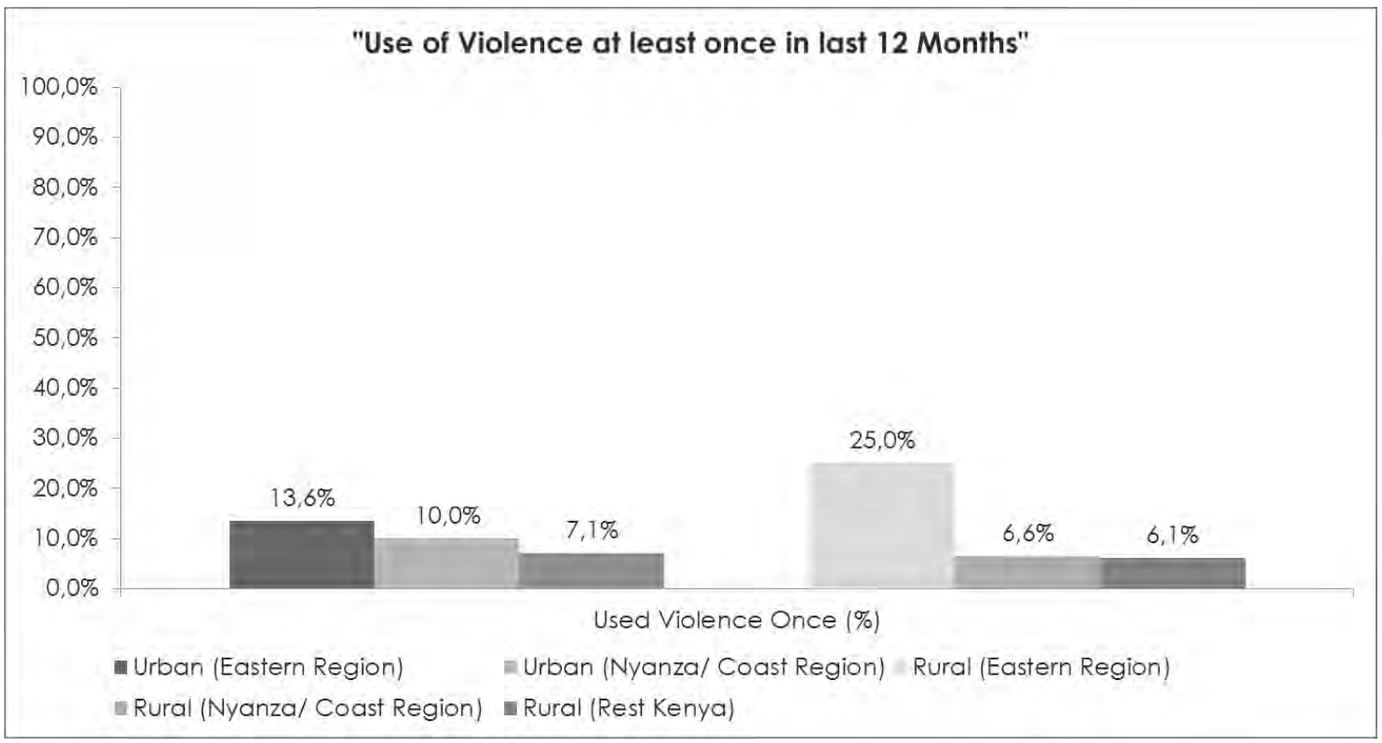
Figures 3.25 and 3.26 display a significant negative effect from Lived Food Scarcity on relative satisfaction for both types of Region. This means that higher levels of experienced scarcity lead to respondent's feeling they are less well off than others. Moreover the figures demonstrate that the effect of such relative satisfaction on policy satisfaction is stronger in dual- ethnic than in single- or multi- ethnic Regions. This could indicate experiences being more frequently being perceived relative to others in dual- ethnic Regions in comparison to single- or multi- ethnic Regions. In both cases relative satisfaction had no significant direct effect on political trust or perceived fairness of leaders. On the whole relative satisfaction increased the model's explained variance in the dependent variable for dual- ethnic Regions but not for single- or multi- ethnic Regions which suggests a greater effect in dual- ethnic Regions.

Figure 3.26: Revised model for Single- and Multi- Ethnic Region Sample. 'Relative Satisfaction' is included as an endogenous variables to the previous model. The model met the specified model fit indices (CMIN/ DF= 2.720; CFI= .985; RMSEA= 0.027), N= 1519



The models above tested the possible explanations for the differences between dual- ethnic and single- and multi-ethnic Regions. However in the descriptive analysis in Section 2 I found that the use of violence seems to be especially high in the Eastern Region, which is a dual- ethnic Region. I thus examined whether the found effects for dual- ethnic Regions are caused by the dual- ethnic competition in the Regions or whether these effects are unique to the Eastern Region. The figure below distinguishes the use of violence by Eastern Region, other dual- ethnic Regions, and single- or multi- ethnic Regions.[143]

Figure 3.27: Share of respondents who reported to having used violence at least once in last 12 months. The respondents were grouped by Eastern Region, other dual- ethnic Regions and single- and multi- ethnic Regions (Rest of Kenya). Further, respondents were grouped by Urban and Rural areas.



The figure depicts that differences exist in the levels of use of violence when contrasting the Eastern Region and other dual- ethnic Regions as well as single- or multi- ethnic Regions. While dual- ethnic Regions show higher levels of

[143] Note that the Figure uses a variable that is not the same as the dependent variable used in the models. The variable used here was coded as a dummy variable to contrast respondents who never used violence and respondents who used violence at least once.

reported violence in comparison to single- and multi- ethnic Regions, differences exist between the Eastern Region and other dual- ethnic Regions. This difference is especially large in rural areas. Figures 3.28 and 3.29 test the revised model for the Eastern Region and the other two dual- ethnic Regions. The figures clearly suggest that the model performs better (explains more variance in the dependent variable) for the Eastern Region than for the other two dual- ethnic Regions. This suggests that the effects of ethnic competition I found in the previous models were most likely influenced by the case of the Eastern Region. In fact, the model for the other two dual- ethnic Regions (Figure 3.29) performs poorly in explaining the variance in the dependent variable (R^2= 3,1%). In contrast, the model for the Eastern Region (Figure 3.28) performs better than the previous models, explaining almost a quarter of the variance in the dependent variable (R^2= 23%). This suggests that the found differences in the models above was mainly not due to ethnic competition in those Regions, but due to factors unique to the Eastern Region.

Figure 3.28: Revised model for Eastern Region. The model met the minimal model fit indices (CMIN/DF= 1,853/ CFI= 0,985/ RMSEA=0,031) N= 360

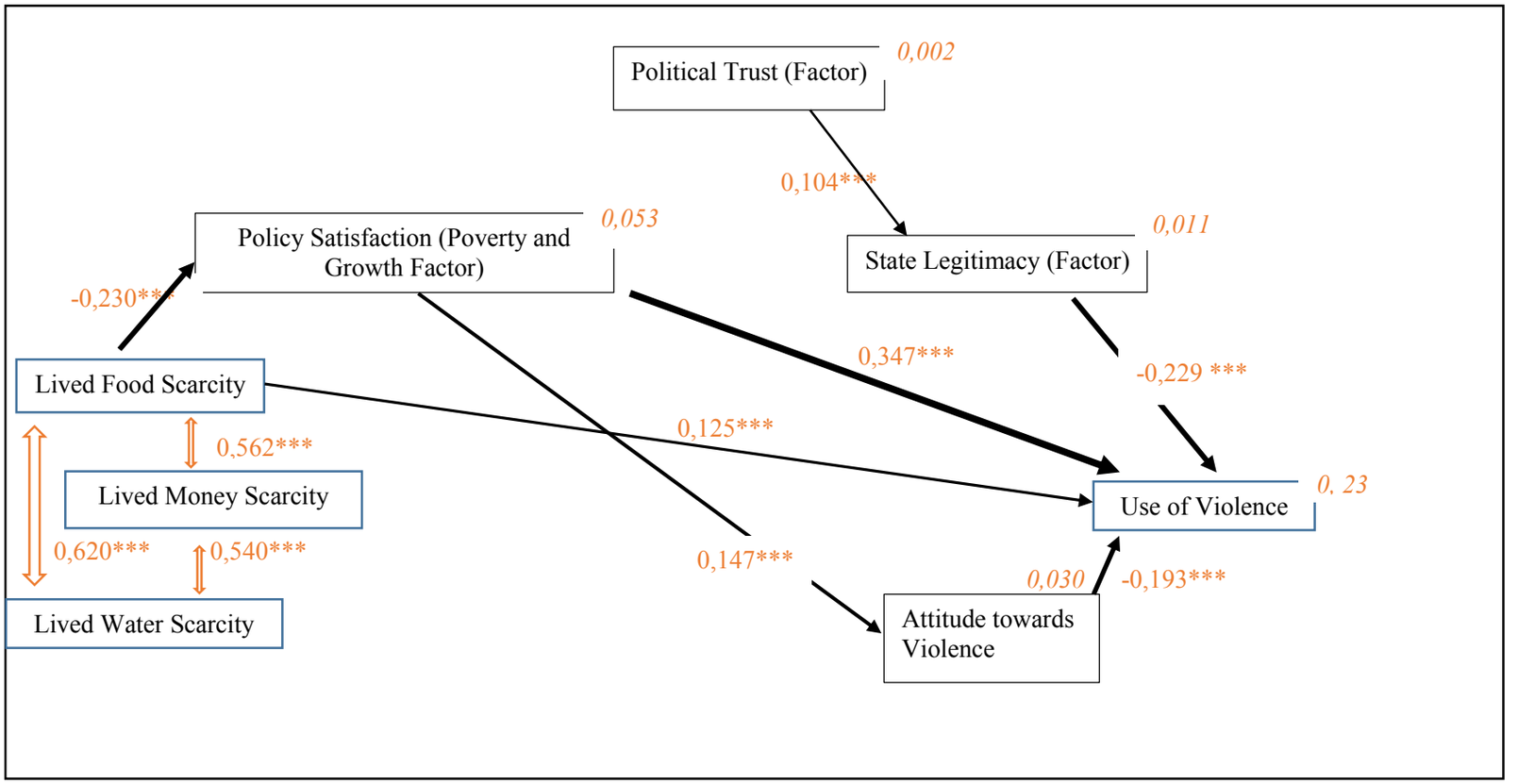
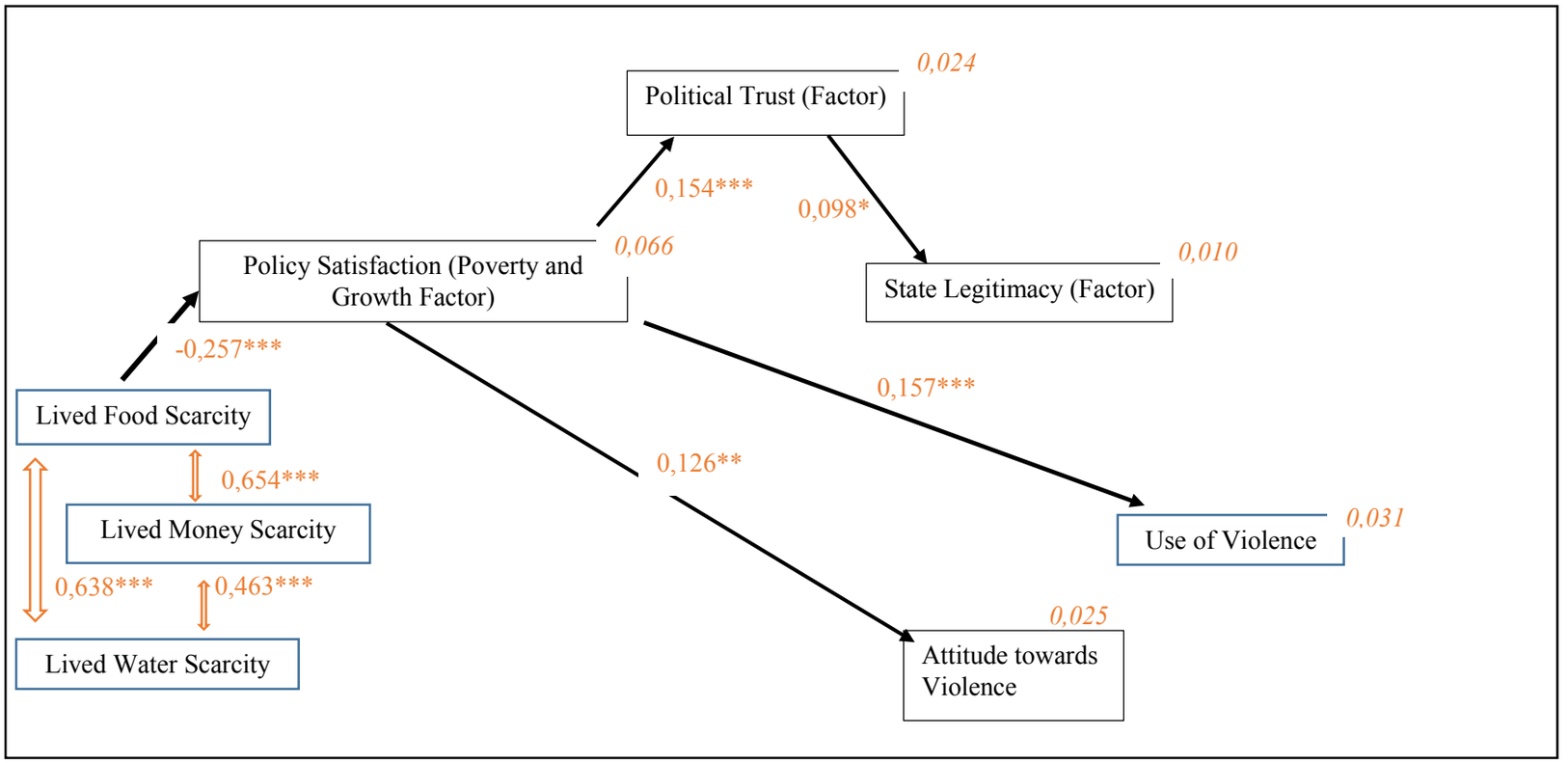


Figure 3.29: Revised model for Dual- Ethnic Regions (without Eastern Region). The model met the minimal model fit indices (CMIN/DF= 1,853/ CFI= 0,985/ RMSEA= 0,031), N= 520



Following this finding I limit my further analysis to the Eastern Region. Figures 3.30 and 3.31 present the revised model for urban and rural areas within the Eastern Region. The figures indicate that the use of violence within the Eastern Region is affected by policy satisfaction, state legitimacy and attitudes towards violence in rural areas, while the use of violence is effected only by experienced food scarcity in urban areas. No direct effect exists between experienced food scarcity and the use of violence for the rural areas in the Eastern Region. The finding for urban areas may support Smith (2014) who argues that African urban areas are especially prone to violence due to food price shocks. The low share of explained variance in the dependent variable however indicates that further variables are needed to explore Smith‘s (2014) argument. Overall the models explain more variance in the dependent variable for rural areas (R^2= 23,7%) than in urban areas (R^2= 8,7%). The revised model appears to suggest a valid explanation of violence in these areas, and the differences between urban and rural areas within the Eastern Region.

Figure 3.30: Revised Model for Eastern Region, Rural Areas. Model met model fit indices (CMIN/DF= 1,136/CFI= 0,994/RMSEA= 0,019) N= 272

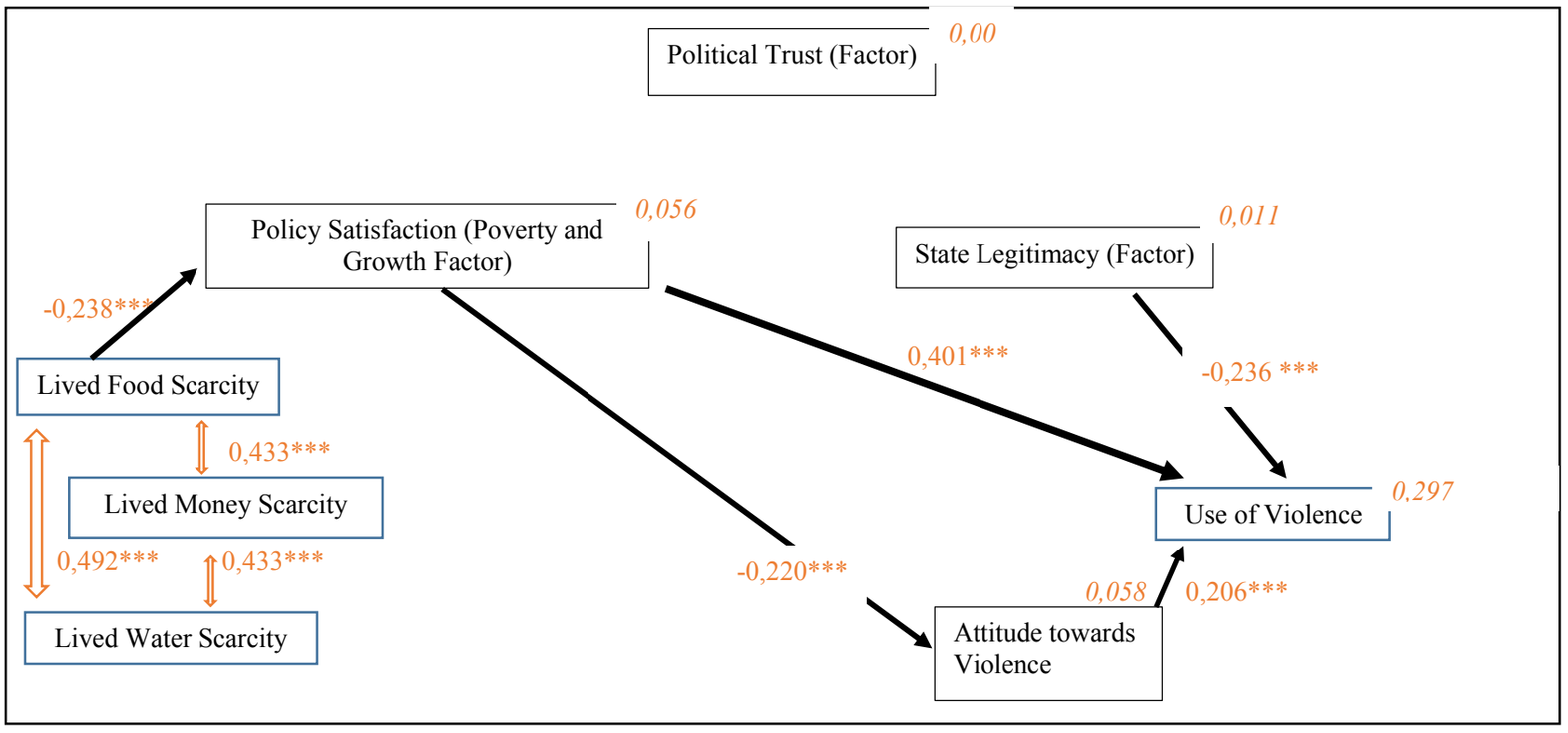
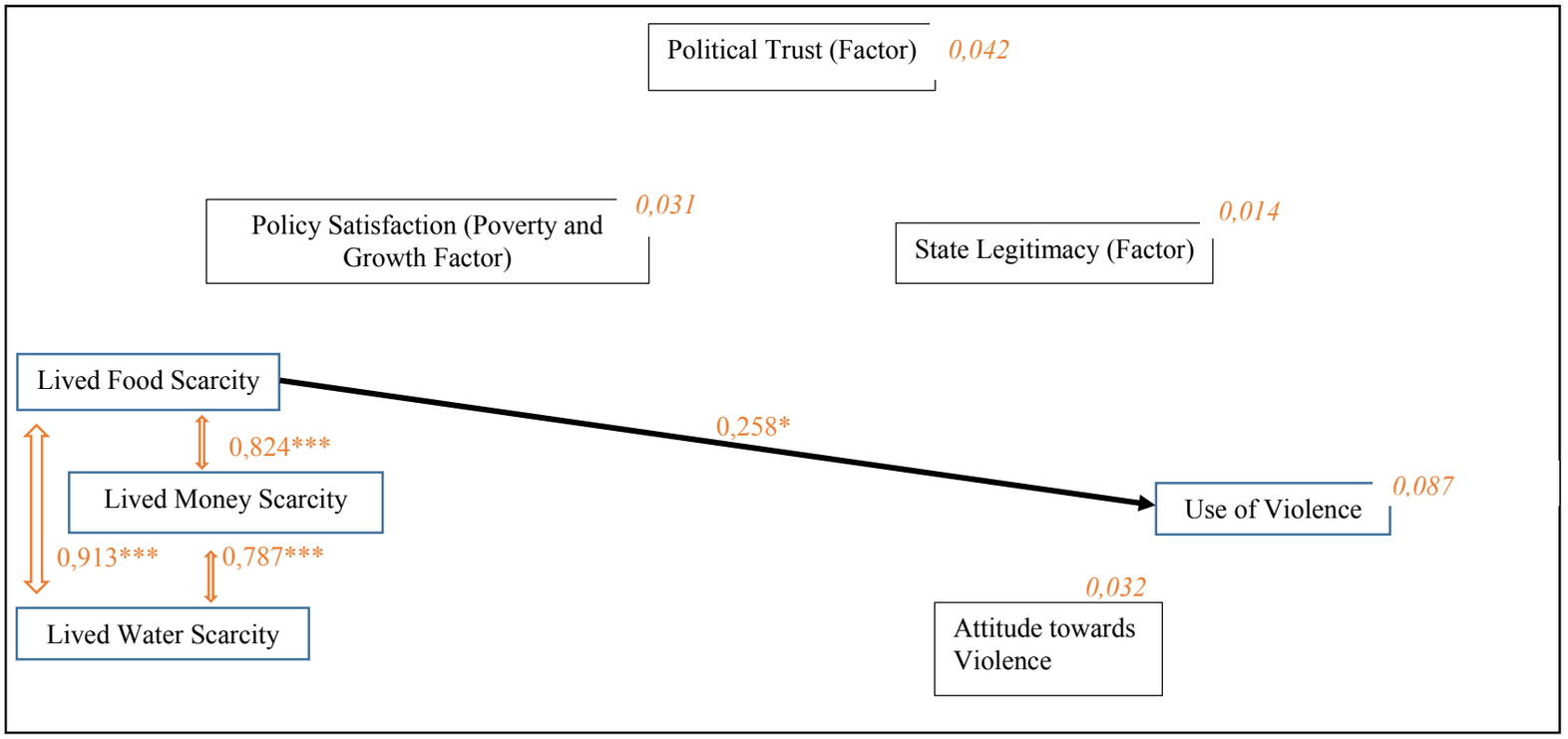
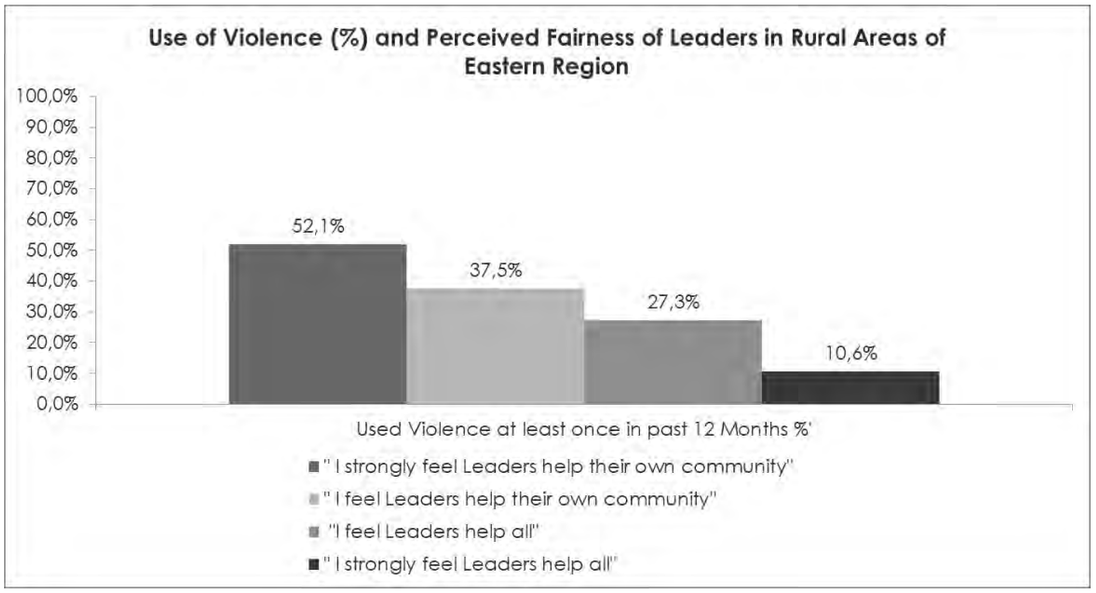


Figure 3.31: Revised Model for Eastern Region, Urban Areas. Model met model fit indices (CMIN/DF= 1,136/ CFI= 0,994/ RMSEA= 0,019) N= 88



In rural areas in the Eastern Region the model (Figure 3.30) explains almost 30% of the variance in the dependent variable. This indicates that the model is well suited in explaining causes for the use of violence in rural areas in the Eastern Region.

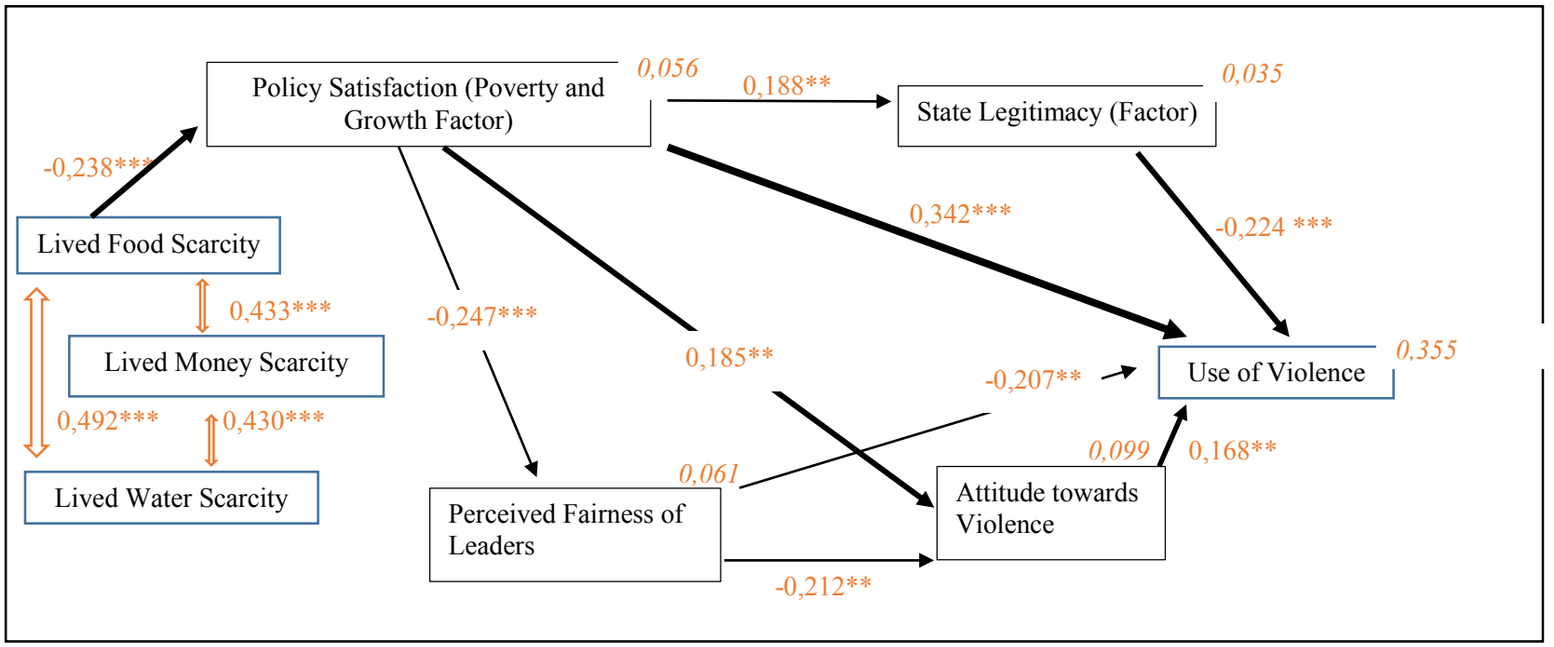
Figure 3.32: Respondents in rural Eastern Region who reported to have used violence a least once in the last 12 months split by perceived fairness of leaders.



Moreover no significant effects link political trust to the overall causal model for the rural Eastern Region sample and therefore political trust was dropped from the following models.

Figure 3.32 above displays the responses for the perceived fairness of leaders question for respondents in the rural Eastern Region. It appears that the majority perceived leaders to favor their own community. This might influence people's propensity to use violence as a result of experiencing scarcity. As Figure 3.33 below displays, the inclusion of perceived fairness has increased the model performance in explaining the variance in the dependent variable. The model accounts for almost 36% of the variance in the dependent variable and displays that significant effects link lived food scarcity with use of violence through several indirect paths.

Figure 3.33: Revised Model for Eastern Region, Rural Areas including perceived fairness of leaders. The Model met model fit indices (CMIN/DF= 1,245/CFI= 0,993/RMSEA= 0,030) N= 272



As would be expected, higher levels of perceived fairness of leaders and higher levels of attributed state legitimacy significantly predict lower levels of reported violence, while more positive attitudes towards violence lead to significantly higher levels of reported use of violence. The strongest predictor however is policy satisfaction. As I found in previous models a significant and positive direct effect exists between the two variables.

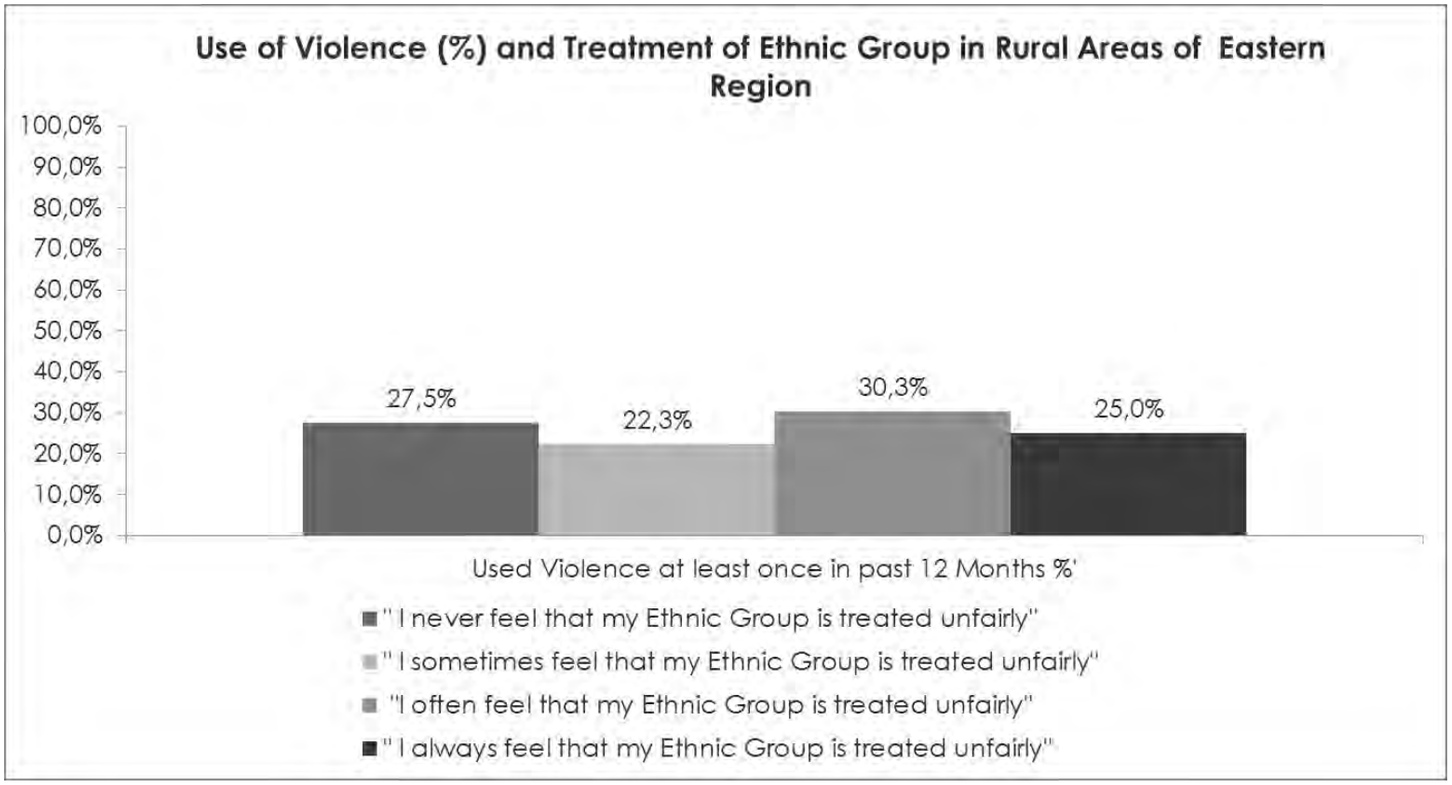
A similar notion of perceived fairness is questioned by the questionnaire item depicted in Figure 3.34. The item asks respondents whether they feel that their ethnic group is treated fairly or unfairly.[144] However it appears that respondents in rural areas in the Eastern Region demonstrate fairly even reported use of violence when split by perceptions of fairness of ethnic treatment. For this reason I did not include the item in an additional model.

The question remains as to what it is about the Eastern Region compared to other Regions that explains the reported high levels of use of violence, especially in rural areas. As I showed above, the support I initially found for ethnic competition between two large ethnic groups as a cause for violence has been weakened by the subsequent finding that dual- ethnic Regions display similar levels of violence as single- or multi- ethnic Regions once the Eastern Region is

[144] Question Q85a (Afrobarometer Round 5 (2011) for Kenya)

excluded.

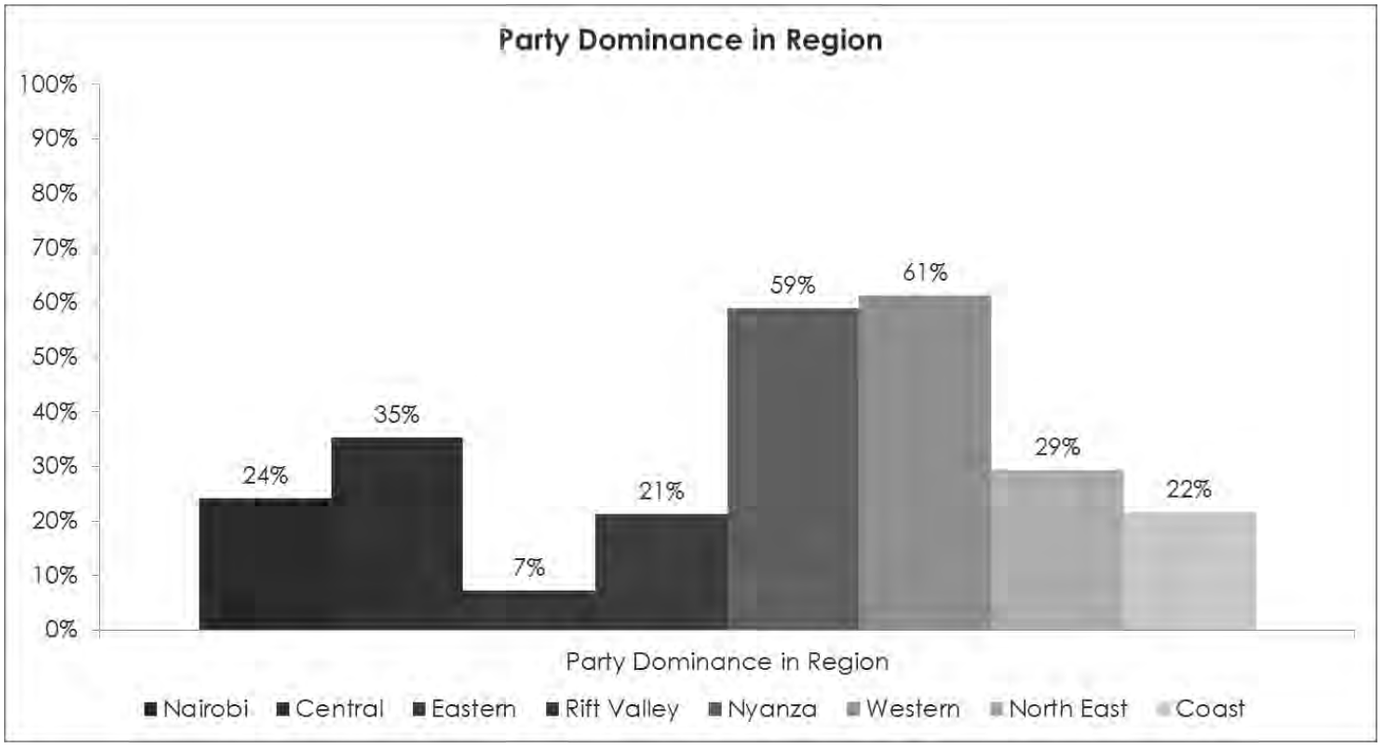
Figure 3.34: Respondents in rural Eastern Region who reported to have used violence a least once in the last 12 months split by perceived treatment of ethnic group.



One notion that is addressed by Homer- Dixon and Blitt (1998) is the need for scarcity induced group rivalry to be 'captured' by a defining entity such as ethnicity, religion or class in order for scarcity to lead to violence or conflict. Another plausible entity that is possibly well adept at capturing and instrumentalizing notions of group rivalry are political parties. Figure 3.35 displays the levels of political party dominance by Region. I coded 'party dominance' to indicate the relative competitiveness within a Region by measuring the 'distance' between the levels of support between the three largest political parties in the Region, respectively.[145] A large value (shown in the figure as a high percentage) indicates that the difference in support for the most popular party and the third most popular party is high which can be interpreted as low competition.[146]

[145] To compute this variable I used the Kenyan Afrobarometer (Round 5) survey item Q99.
[146] Of course it is feasible that competition can arise between two strong parties without a third competing party. However Figure 3.35 was chosen to display the three largest parties as it highlights the especially strong competition in the Eastern Region.

Figure 3.35: Margin of Party dominance split by Region. Figure indicates size of margin of support between the 3 most popular political parties.



Conversely a low score of party dominance (shown in the figure as a low percentage) indicates that the difference in support is low which can be interpreted as high competition. Figure 3.35 displays that political party competition is especially high in the Eastern Region. In the Eastern Region levels of reported support for the largest party and the third largest party differ by only 7%. It is plausible that the high levels of reported use of violence is thus a reflection of the high levels of party competition. I test the effect of partisanship by including a dummy variable which indicates support for one of the three largest parties. In the Eastern Region the three largest parties in terms of reported support were the Orange Democratic Movement (ODM), the Orange Democratic Movement- Kenya (ODM-K) and the Party of National Unity (PNU). I included the dummy variables as a direct control on attitudes towards violence and the use of violence. Figures 3.36, 3.37 and 3.38 present the results of these tests.

Figure 3.36: Revised model testing the effect of Partisanship (ODM) in Eastern Region, Rural Areas. Model met minimal model fit indices (CMIN/DF= 1,245/ CFI= 0,991/ RMSEA= 0,030) N= 272

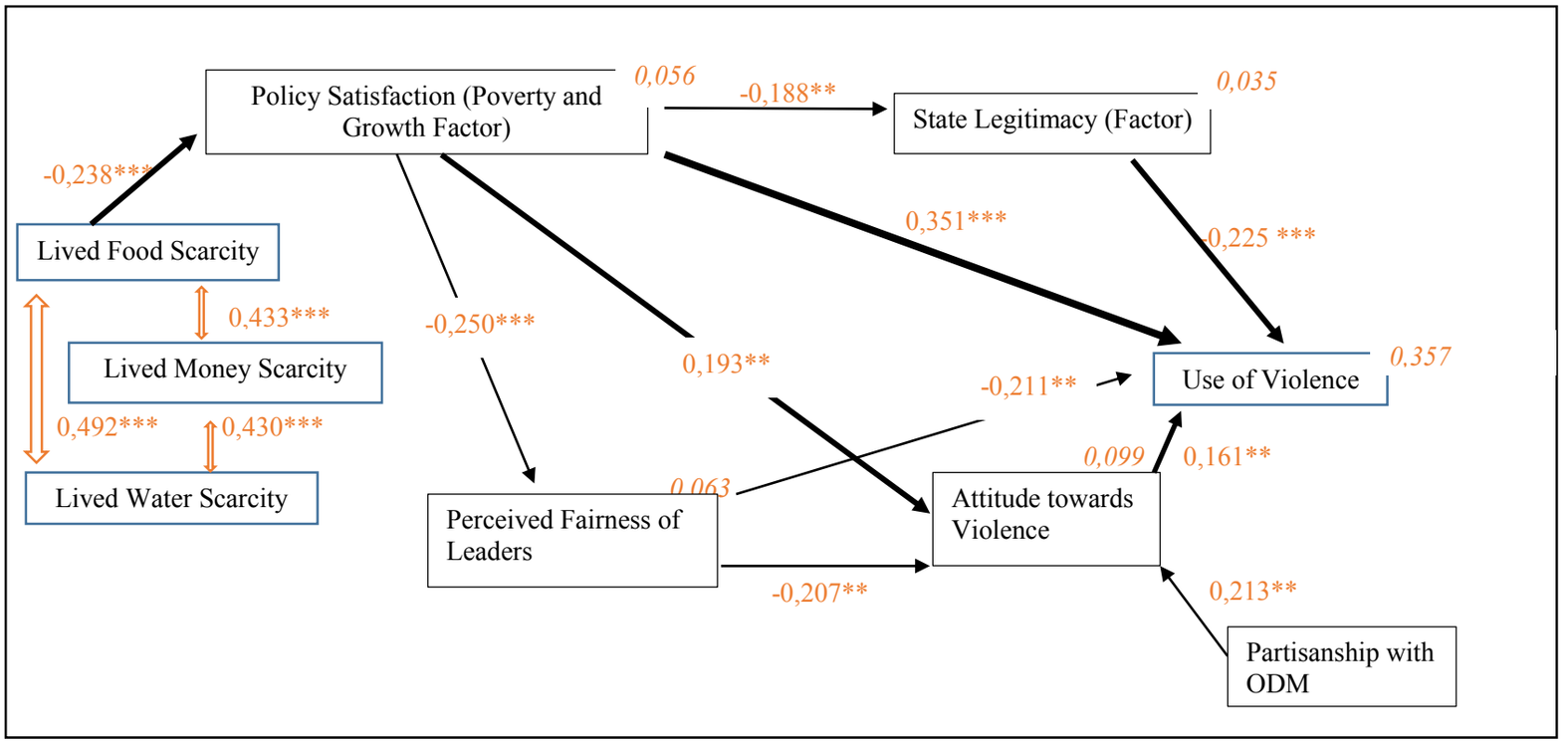


Figure 3.37: Revised model testing the effect of Partisanship (ODM-K) in Eastern Region, Rural Areas. Model met the minimal model fit indices (CMIN/DF= 1, 322/ CFI= 0, 989/ RMSEA= 0, 034) N= 272

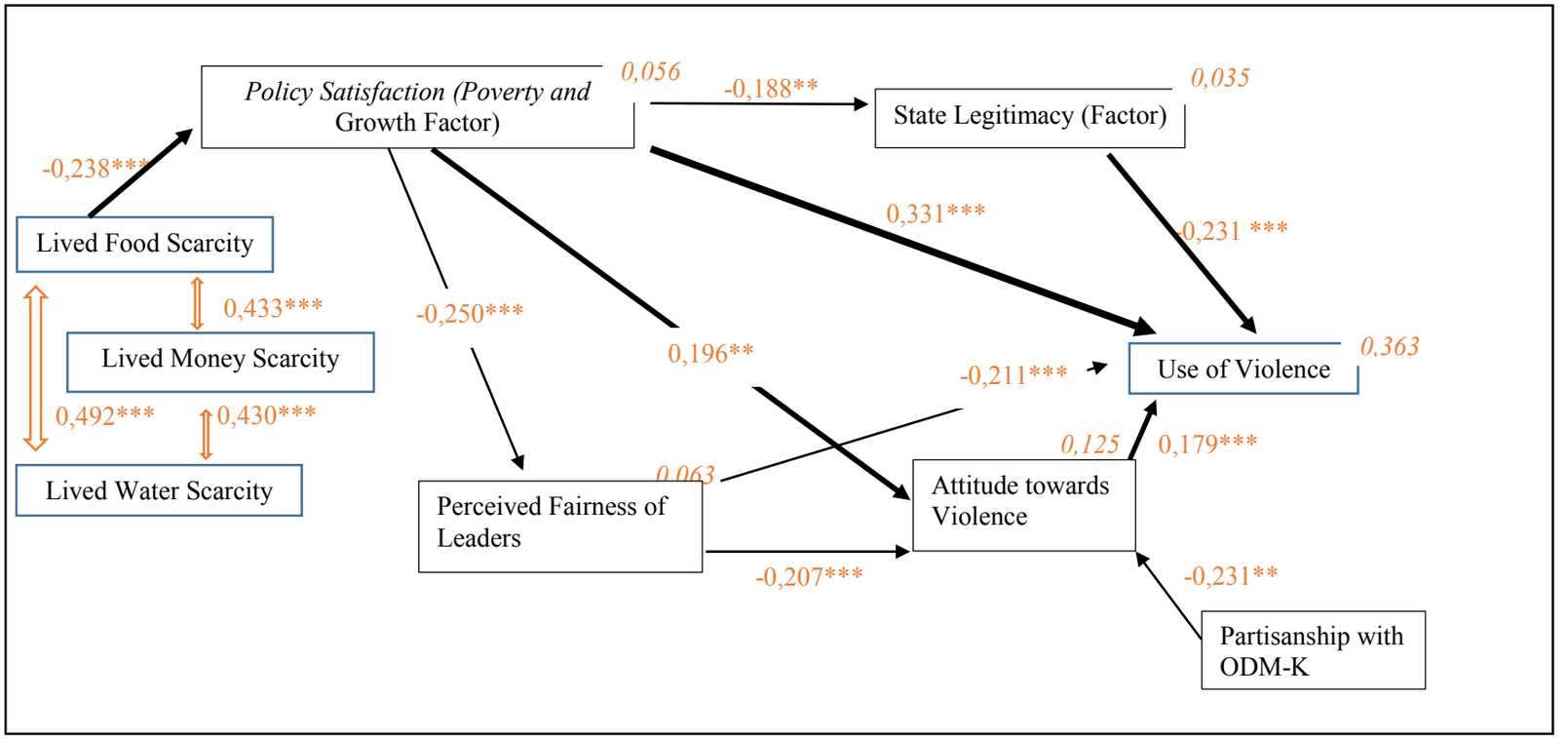
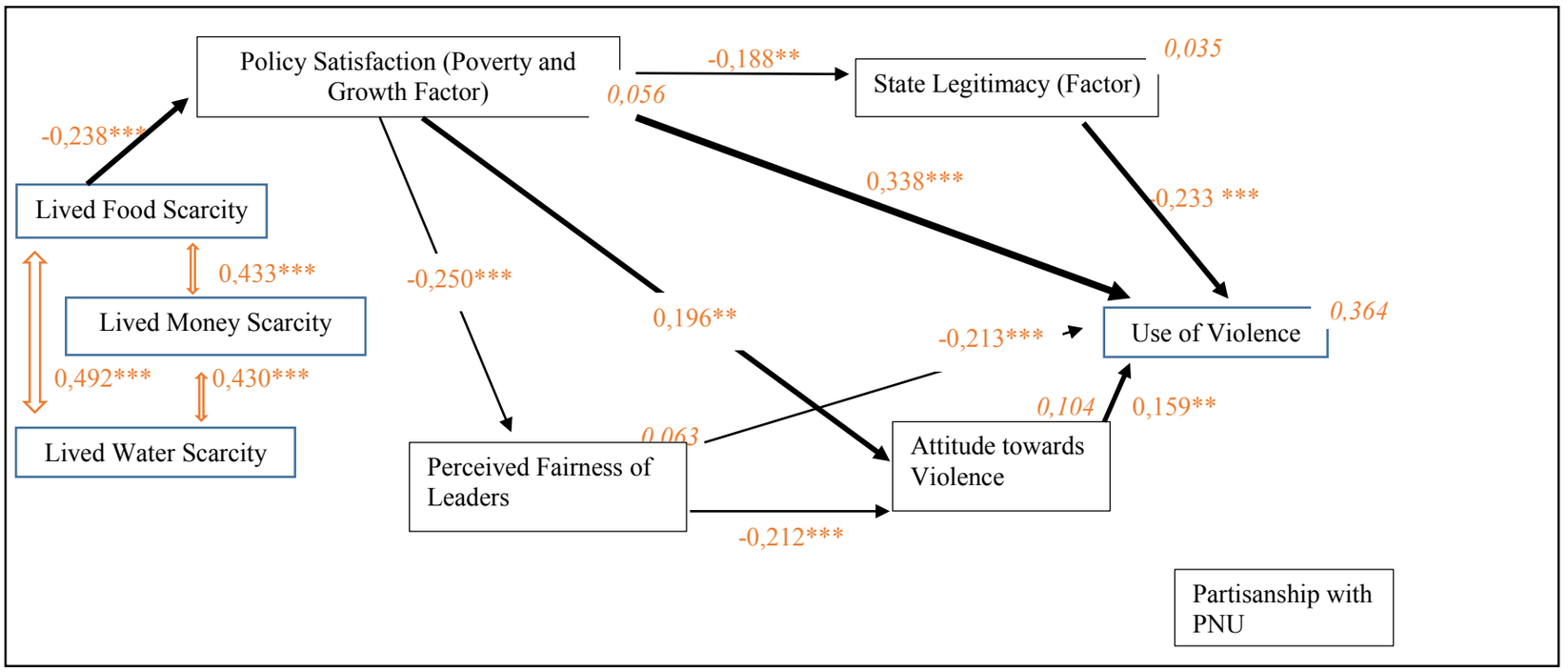


Figure 3.38: Revised model testing the effect of Partisanship (PNU) in Eastern Region, Rural Areas. The Model met the minimal model fit indices (CMIN/DF= *1,322/ CFI= 0,989/ RMSEA= 0,034) N= 272*



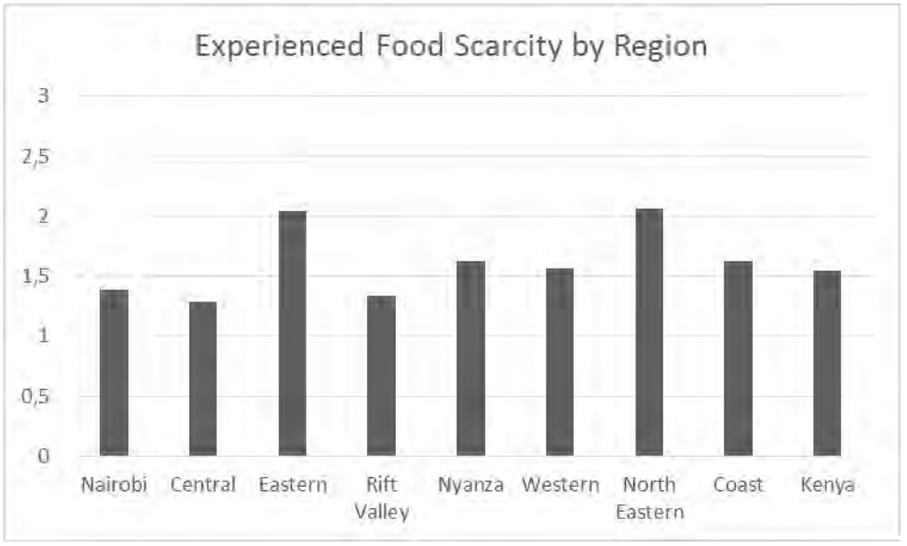
From the Figures above it appears that identification with specific parties can have substantially different effects on the model. In all models the inclusion of partisanship did not weaken the overall model performance as measured in the proportion of explained variance in the dependent variable. In the case of the ODM-K and PNU the inclusion of partisanship even increased the model performance. Moreover I found no significant direct effect between partisanship and use of violence. However I did find differences in the effect of partisanship on attitudes towards violence. Both partisanship with the ODM and the ODM- K showed significant effects on attitudes towards violence, while I found no significant effect of partisanship with the PNU on attitudes towards violence. Interestingly, the effect of partisanship with the ODM on attitudes towards violence is positive while the effect of partisanship with the ODM-K on attitudes towards violence is negative. Both effects are significant at p< 0,000 and considerable in size. This indicates that partisanship with the ODM increases positive attitudes towards violence while partisanship with the ODM-K decreases positive attitudes towards violence. These findings appear to suggest higher willingness to use violence in ODM supporters which is in line with the electoral violence in Kenya in 2007 and 2008 which was principally inflicted by ODM supporters.

In the Eastern Region high levels of reported use of violence might thus be a result of party competition. More important for the analysis of this thesis however is to gauge whether the levels of reported violence in the rural Eastern Region were only politically motivated or whether the levels of violence were partially caused or increased by the experience of scarcity. I would have liked to run an additional test, in which I moderate the revised model by a variable that contrasts ODM, ODM-K and PNU supporters in the Eastern Region. However due to the limited sample size I was unable to do so as the group sizes would have been insufficient for using SEM in SPSS AMOS. Future research is, however, well advised to test these findings with a larger sample allowing to contrast by partisanship. I further assessed the relation between partisanship and experienced food scarcity by re- running the revised model for the Eastern Region without experienced food scarcity as an independent variable. However the model did not meet the minimal model fit indices.

Without the possibility of using SEM to test a possible interaction effect between experienced scarcity and partisanship on the reported use of violence in the Eastern Region, I ran descriptive analyses to further examine the effect of partisanship and experienced scarcity on violence in the Eastern Region.

Figure 3.39 shows that reported levels of experienced food scarcity are highest for the Eastern Region and the North Eastern Region. This could very plausibly be a reflection of the East African drought which heavily affected especially the North Eastern Region in the year prior to the interviews being conducted. The figure could also provide descriptive indication that heightened levels of experienced food scarcity might have impacted respondents' propensity to violence in the Region. To understand why reported violence was higher in the Eastern Region than the North Eastern Region, I compared Figure 3.39 and Figure 3.35. The Figures suggest that political competition might be a catalyst for violence, as both Regions experienced similar levels of scarcity, but violence was considerably higher in the Eastern Region. Higher levels of political competition possibly explains this difference.

Figure 3.39: Mean scores of reported levels of experienced food scarcity split by Region



To eliminate the possibility that high levels of violence is simply associated with partisanship, but not competition I examined levels of use of violence by respondents' party support across Kenyan Regions. Figure 3.40 indicates that partisanship *itself* seems not to be linked to higher levels of violence. Rather, for all parties, violence is considerably higher in the Eastern Region. To link this finding with levels of experienced scarcity, I split the reported levels of violence in the Eastern Region by party affiliation and by experienced scarcity (Figure 3.41). For ODM-K and PNU supporters, higher levels of experienced scarcity appear to be associated with higher levels of reported violence. For ODM supporters however, reported use of violence is highest for respondents who experienced scarcity several times, but lower for respondents who experienced scarcity on a regular basis. This could indicate that for PNU and ODM-K supporters, the use of violence is more frequent for those who are highly marginalized, while for ODM supporters, moderate levels of experienced scarcity seem to be associated with more frequent use of violence. This may suggest a lower 'threshold' for ODM supporters to use violence or possibly different electorate demographics for each party. To gauge the feasibility of the later interpretation, I examined the party support of respondents by their experienced food scarcity.

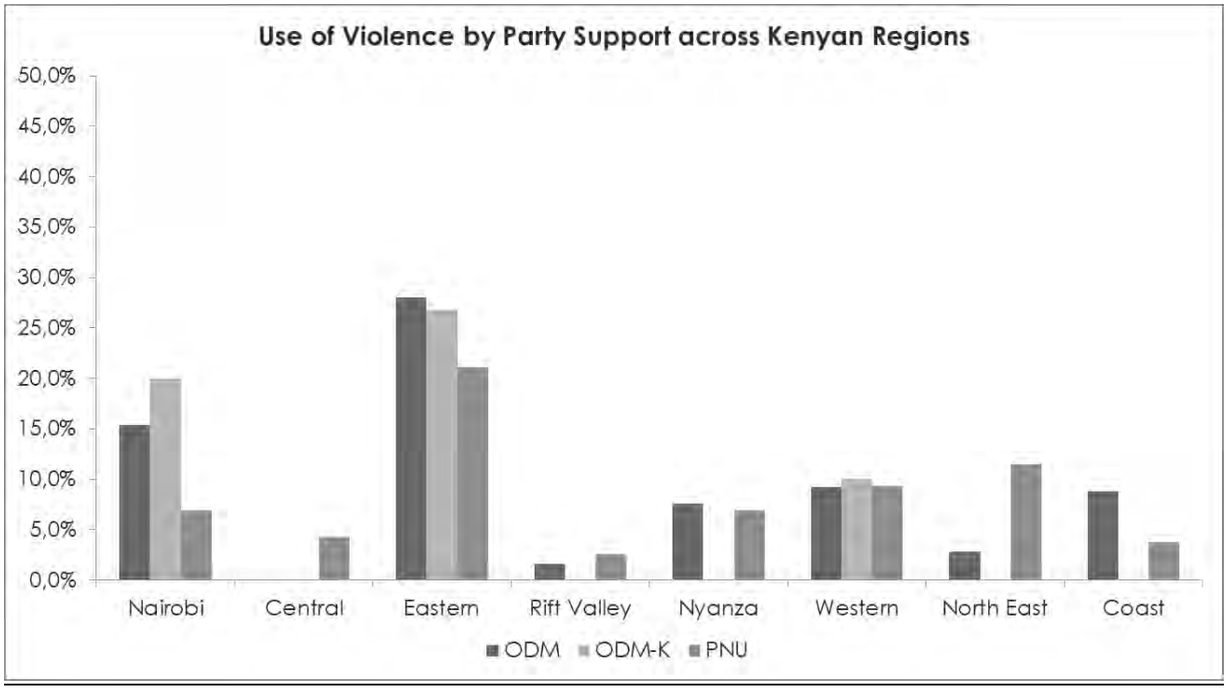


Figure 3.40: Use of Violence (% of respondents who reported to having used violence at least once in past year) by Region and Party Support.

Figure 3.41: Respondents who used violence at least once in 12 months prior to interview. Respondents are split by Party support. Figure displays results for respondents from the Eastern Region.

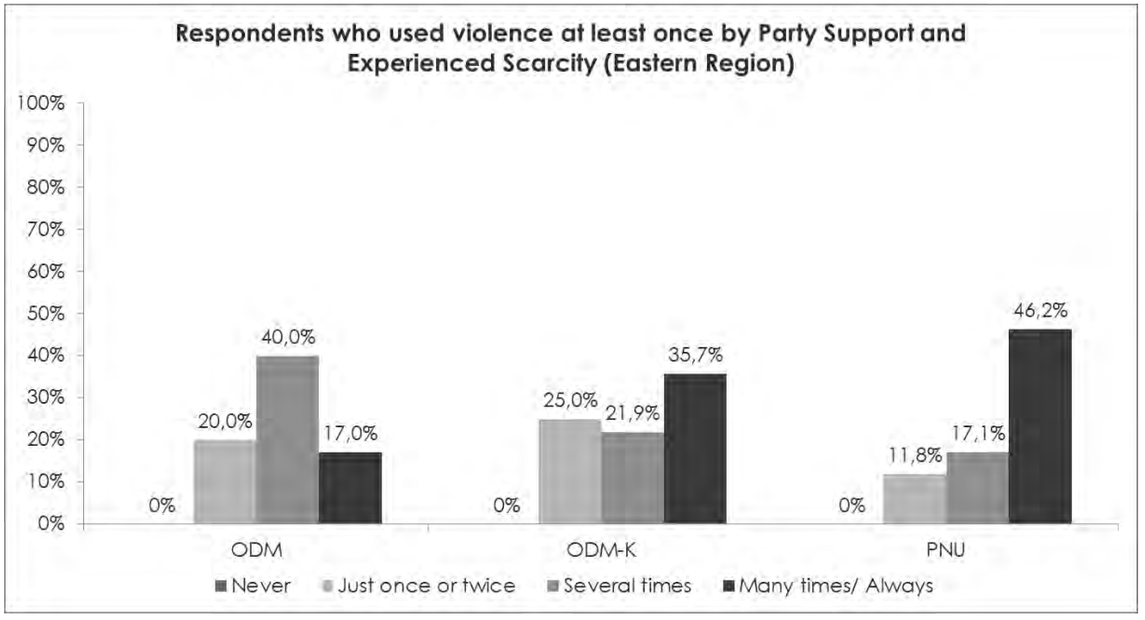
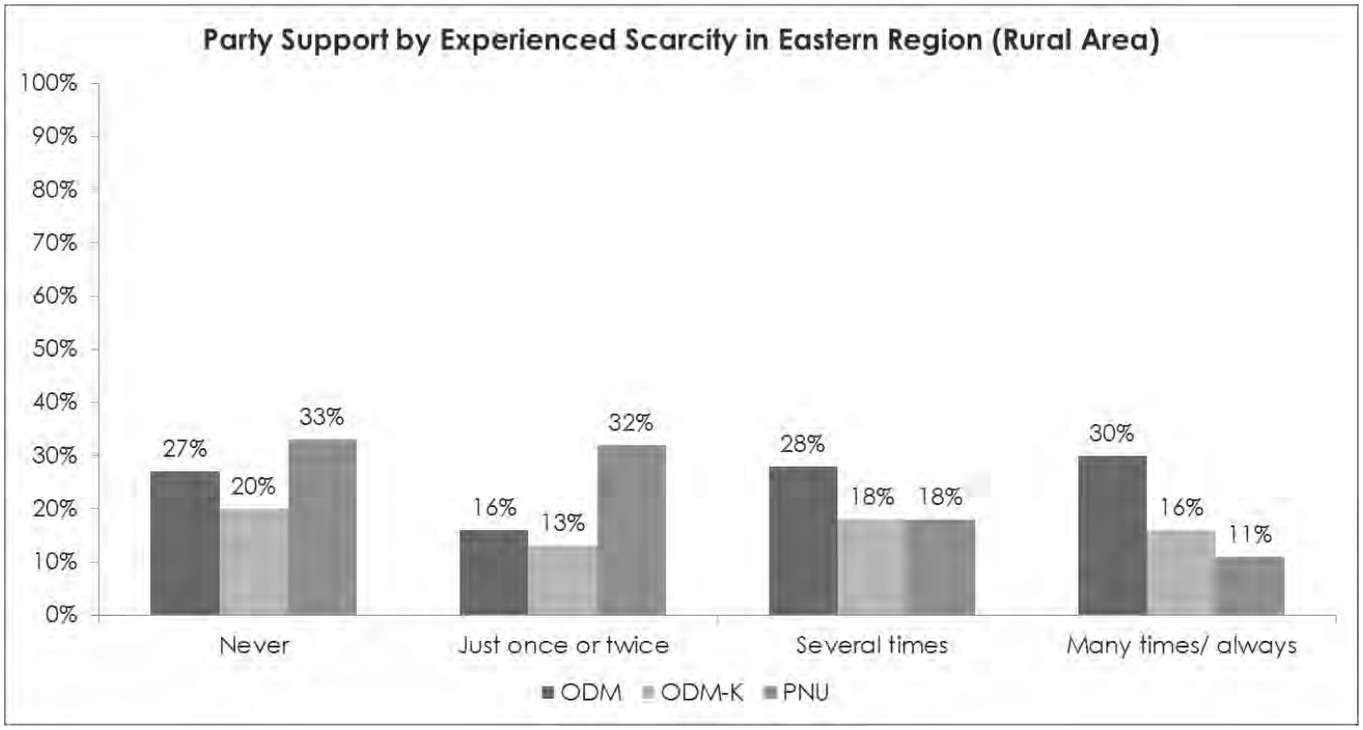


Figure 3.42 suggests that the PNU enjoys higher levels of support with respondents who never or very rarely experienced food scarcity, while the ODM enjoys higher levels of support with respondents who experienced food scarcity more frequently. While this does not suggest that ODM politicized food as a mean of generating support for violence, Figures 3.40, 3.41 and 3.42 indicate that the ODM more strongly relied on those who suffered from experienced scarcity more frequently and that its supporters were more inclined to using violence.

Figure 3.42: Party support by experienced food scarcity in Eastern Region (rural areas)



These findings could support Homer- Dixon and Blitt (1998) who argue that group issues or grievances translate into violence or conflict through the structured and organized 'harnessing' of such perceptions by entities such as political parties. It is however also plausible that party competition is a result of ethnic competition. High levels of violence in the Eastern Region may thus be a result of an incongruence between the number of ethnic groups and the number of competing parties. This could explain why the North Eastern Region does not display similar levels of use of violence despite its high levels of experienced food scarcity. Figure 3.43 suggests limited support for a strong ethnic linkage

between ethnic group and party as party support for the Kamba ethnic group is relatively similar between ODM and ODM- K and between ODM and PNU for the Meru/ Embu ethnic group.

Figure 3.43: Party support split by ethnic group in rural areas in Eastern Region

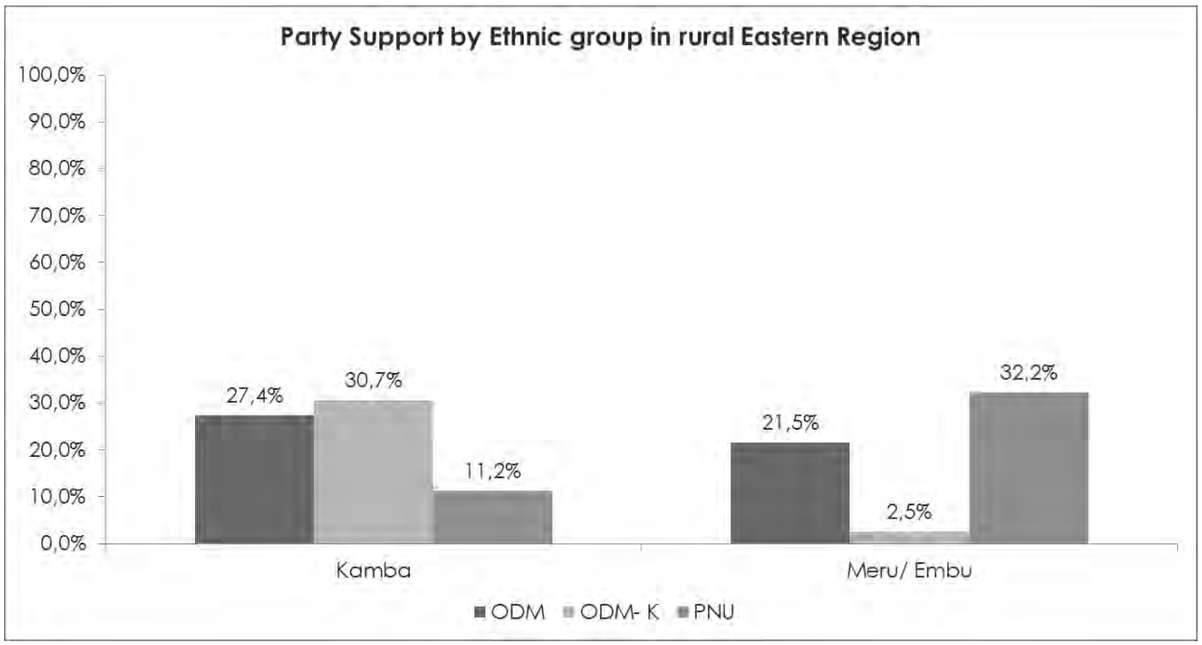
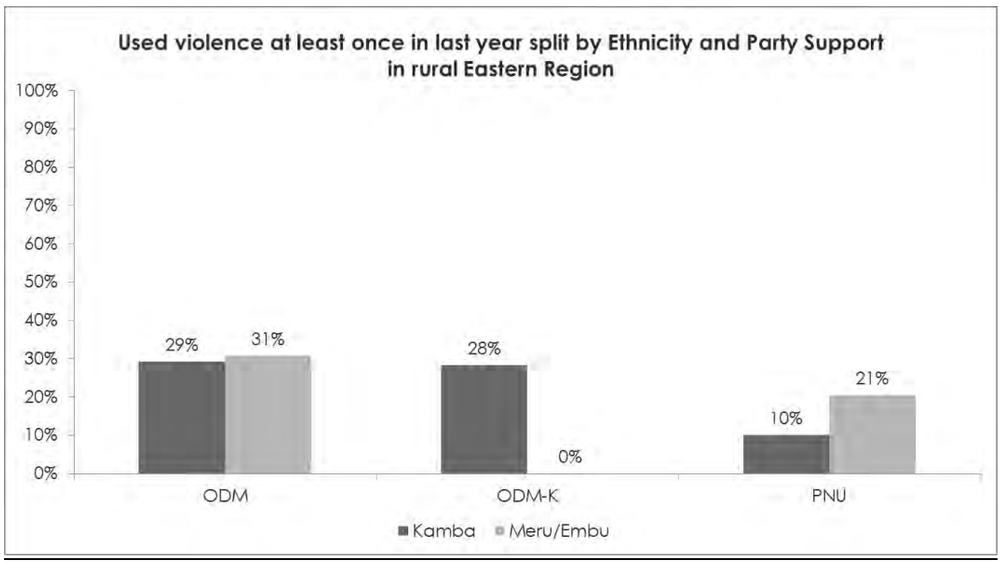


Figure 3.44: Use of Violence split by party support and ethnic group.



Similarly, Figure 3.44 displays that use of violence is comparable for Kamba and Meru/Embu ODM supporters while larger for Meru/ Embu PNU supporters. This presents no support for a possibly ethnicity driven political motivation of

violence, but supports non- ethnic violence along party lines. The results for ODM-K supporters should be interpreted with caution as no Meru/ Embu reported to support the ODM-K.

Overall I found that most of the differences between dual- ethnic and single- or multi- ethnic Regions is accounted for by the Eastern Region. Within the Eastern Region, especially rural areas showed high levels of use of violence. In both urban and rural areas in the Eastern Region the revised path model met the minimal model fit indices. In both areas the model explained a considerable share of variance in the dependent variable. To explain the causes of the high levels of reported violence in the rural Eastern Region I re- tested the revised model using perceived fairness of leaders and found it added explanatory value to the model. Further I tested for the effect of party competition as the Eastern Region is characterized by high levels of party competition.

I found that partisanship with the ODM produced more positive attitudes towards violence while partisanship with the ODM-K decreased positive attitudes, and partisanship with PNU had no effect on attitudes towards violence. I moreover found that respondents who reported use of violence most frequently supported the ODM, and that ODM supporters who had used violence most frequently had not experienced food scarcity at very high levels, but only at moderate levels. I interpreted this finding as indicating that violence by ODM supporters may not be centrally determined by experienced scarcity but more strongly by party competition. I moreover found that party competition was not merely a reflection of ethnic competition in the Eastern Region, and found no support that ODM members of either Kamba or Meru/ Embu were more prone to using violence.

While the high levels of use of violence in the Eastern Region where most likely caused by party competition, the path analysis models presented above emphasize that the propensity to use violence can be modeled as a function of experienced food scarcity through multiple secondary linkages with or without party support. The path models or the rural areas in the Eastern Region explained approximately 36% of the variance in the dependent variable indicating an overall good fit of the model.

3.4.3 Co- Ethnicity with President Kibaki

The descriptive tests in Section 2 indicated a difference in levels of use of violence between respondents who are co-ethnic and respondents who are not co- ethnic with President Kibaki. Moreover the revised model further underlined differences between these two groups. To understand whether these differences are caused by the shared ethnicity, I tested the relative impact of co- ethnicity on local and national level politics by including the three variables used to compute the Political Trust factor in the model. The three political trust variables were included as mediator variables between policy satisfaction and state legitimacy. The model was rerun but failed to meet the required model fit indices. Using the modification indices in SPSS AMOS, additional paths were drawn. These paths link local level trust with national level trust which makes conceptual sense as local politics likely influences people's perceptions of politics at the national level.

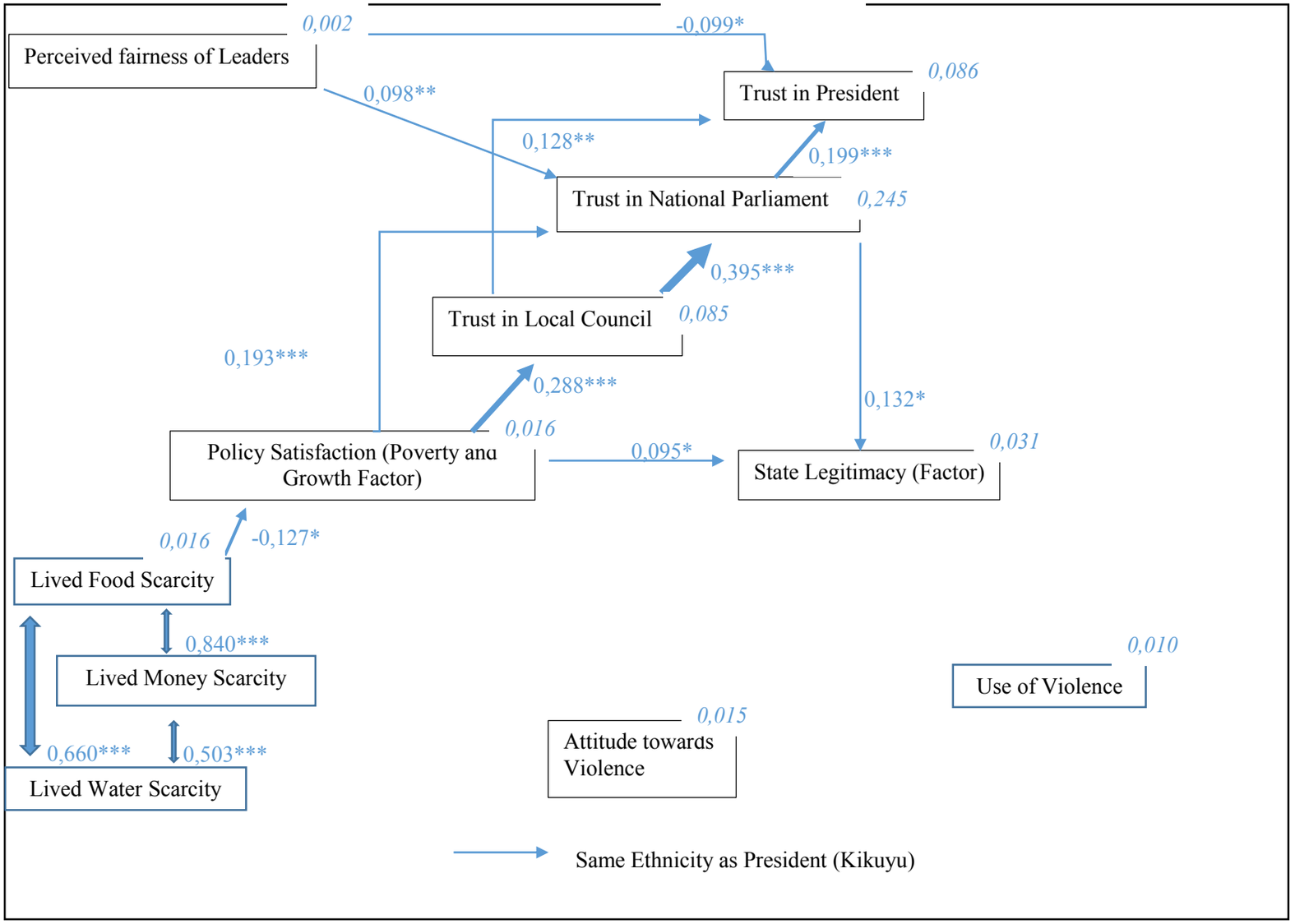
Figures 3.46 and 3.47 present the significant effects for the model moderated by co-ethnicity with the President. For both groups policy performance does not directly affect trust in the President. Moreover trust in the President is predicted by local and national legislative trust for both groups. In the case of non- co-ethnic respondents this effect however was significantly stronger than for co-ethnic respondents.[147] This could support an argument of non-co- ethnic respondents deriving national executive trust from a more 'holistic' sense of trust when compared to the co- ethnic respondents. This interpretation is supported by state legitimacy being significantly directly affected by all three forms of political trust for non-co- ethnic respondents, while only being significantly directly affected by national legislative trust for co- ethnic respondents.

Moreover the squared multiple correlations allow for further interpretation of the differences in the model performance. The differences in explained variance are especially indicative in regard to national executive and national legislative trust. For co- ethnic respondents the revised model explains a higher percentage of variance in the national legislative variable and a lower percentage of variance in the national executive variable. For non- co- ethnic respondents,

[147] See Appendix 3.4.48 for Comparison of Unstandardized Regression Weights

however, the revised model explains a higher percentage of the variance of the national executive variable and a lower percentage of variance of the national legislative variable.

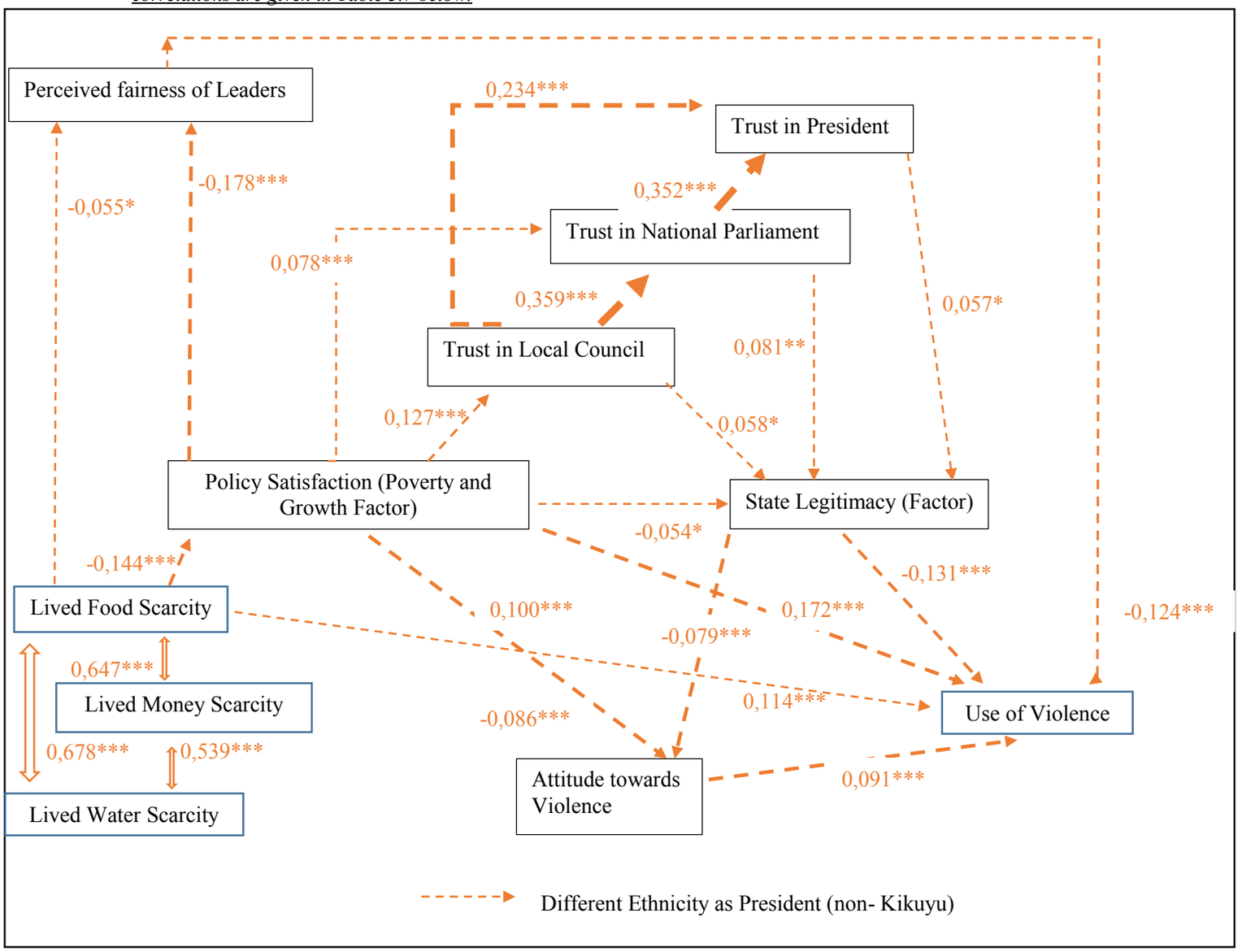
Figure 3.45: Revised Model for 'Kikuyu group' including threefold differentiation of 'political trust' factor and perceived fairness of leaders. The model met the specified model fit indices (CMIN/DF= 2.297; CFI= .989; RMSEA= 0.023) N= 480.



This allows for two interpretations. First, policy satisfaction plays less of a role in the generation of trust towards the President for respondents who are of the same ethnicity as the President because trust in mainly derived from attributed intra- ethnical traits. Or second, respondents who are non-co-ethnic with the President place additional emphasis on policy delivery in regard to their trust in the President because they fear preferential treatment of the President based

on co- ethnicity.

Figure 3.46: Revised Model for 'non- Kikuyu Group' including threefold differentiation of 'political trust' factor and perceived fairness of leaders. The model met the specified model fit indices (CMIN/DF= 2.297; CFI= .989; RMSEA= 0.023) N= 1881.Squared multiple correlations are given in Table 3.7 below.



The results indicate support for the first interpretation and non-support for the second interpretation. The first interpretation is supported by the significant effects of perceived fairness on both national legislative trust and national executive trust for the co-ethnic group.

I found no significant effects between these variables for non-co-ethnic respondents which weakens the second interpretation. More importantly however, for the co-ethnic sample, a significant positive effect between perceived fairness and national legislative trust and significant negative effect between perceived fairness and trust in the national executive (President) exists.[148]

Table 3.7: Squared Multiple Correlations for Revised Model in Figure 3.47

	Estimate
Policy Satisfaction	0,021
Perceived Fairness of Leaders	0,032
Trust in Local Council	0,016
Trust in National Parliament	0,142
Trust in President (Kibaki)	0,244
State Legitimacy	0,024
Attitude towards Violence	0,031
Use of Violence	0,095

This means that while perceived equal treatment by leaders increases trust in the national legislative body, perceived equal treatment by leaders decreases trust in the national executive (President). Considering that no significant effect was found for those of different ethnicity than the President, these findings support both the first interpretation made above, and the broader notion of expected preferential treatment based on ethnicity by Brubaker (2004). The increase in explained variance for trust in the national legislative and executive for the co-ethnic sample group confirms the validity of including the variables in the model.

The presented findings point to the importance of co-ethnicity of respondents regarding the linkages between experienced scarcity and the use of violence. However, it is not directly apparent if the findings hold for co-ethnics regardless of their location or precisely because of their location. To address this limitation I tested a further model in which I excluded respondents from the Eastern Region. As elaborated above the Eastern Region shows particularly

[148] For a comparison of unstandardized regression weights see Appendix 3.4.48

high levels of use of violence, most likely due to political competition between the ODM and the ODM-K. Moreover the Eastern Region is a dual- ethnic Region and the majority of respondents from the Eastern Region are not Kikuyu. The found differences between co- ethnic and non- co- ethnic respondents might thus be strongly influenced by the high levels of violence in the Eastern Region which would be captured by the non- co- ethnic moderator group. The model excluding the Eastern Region met the minimal model fit indices[149] and confirmed that the found differences were principally unique to the Eastern Region. Excluding the Eastern Region respondents produced a model that explained 1 % variance in the dependent variable for co-ethnic respondents and 2,1% explained variance in the dependent variable for non- co-ethnic respondents. Considering that the previous model accounted for 9,5% of the variance in the dependent model the strong effect of the high levels of violence of the Eastern Region are emphasized. Subsequently I did not further test the causes for the differences found in the revised model between co- ethnic and non- co- ethnic respondents as these differences are mostly explained by factors specific to the Eastern Region.

[149] CMIN/DF= 1,912; CFI= 0,990; RMSEA= 0,021. See Appendix 3.4.53 for model results.

4. Conclusion

The study of the effects of natural resource scarcity as a cause or catalyst of violence and conflict has experienced growing interest in academia since the early 1990s.[150] As ever stronger evidence was produced in the natural sciences regarding the scale and scope of the natural effects of climate change, research in the economic and social sciences began to investigate what impact such effects might have on the likelihood of violence and conflict around the world. Much of this surge in research was undertaken at the system or state level, examining how climate change could affect national economic output, food supply or human migration as causes of violence and conflict. While the examination of system and state level effects has garnered increasing interest in the past two decades, limited evidence has been brought forward in the social sciences regarding the effects of climate change on individuals' social and political attitudes and behaviors. While the literature on climate change mitigation and adaptation has furthered our understanding on *how* people deal with the effects of climate change, research in all fields has produced only limited and inconclusive evidence regarding whether people's social and political attitudes and behavior change too, and whether these changes could make violence and conflict more likely. In the introduction to my thesis I thus posed three overarching research questions which address this perceived gap in the literature, and motivated and guided this thesis. Does scarcity affect people's propensity to use violence? Are these linkages direct or indirect? To what extent is people's propensity to use violence induced by scarcity, and to what extent is it dependent upon conditional factors?

Why People Matter: Linking scarcity and violence at the micro- level

Research on the linkages between scarcity and people's propensity to use violence has been held back by limited availability of data at sub-national levels. Such research has thus commonly failed to account for the role of individual's perceptions and attitudes as a determinant of behavior. I believe that this limitation explains the almost non- existent work undertaken to further develop Homer- Dixon's theoretical work of the late 1990s. Homer- Dixon (1999) argues

[150] Brown et al. (2007)

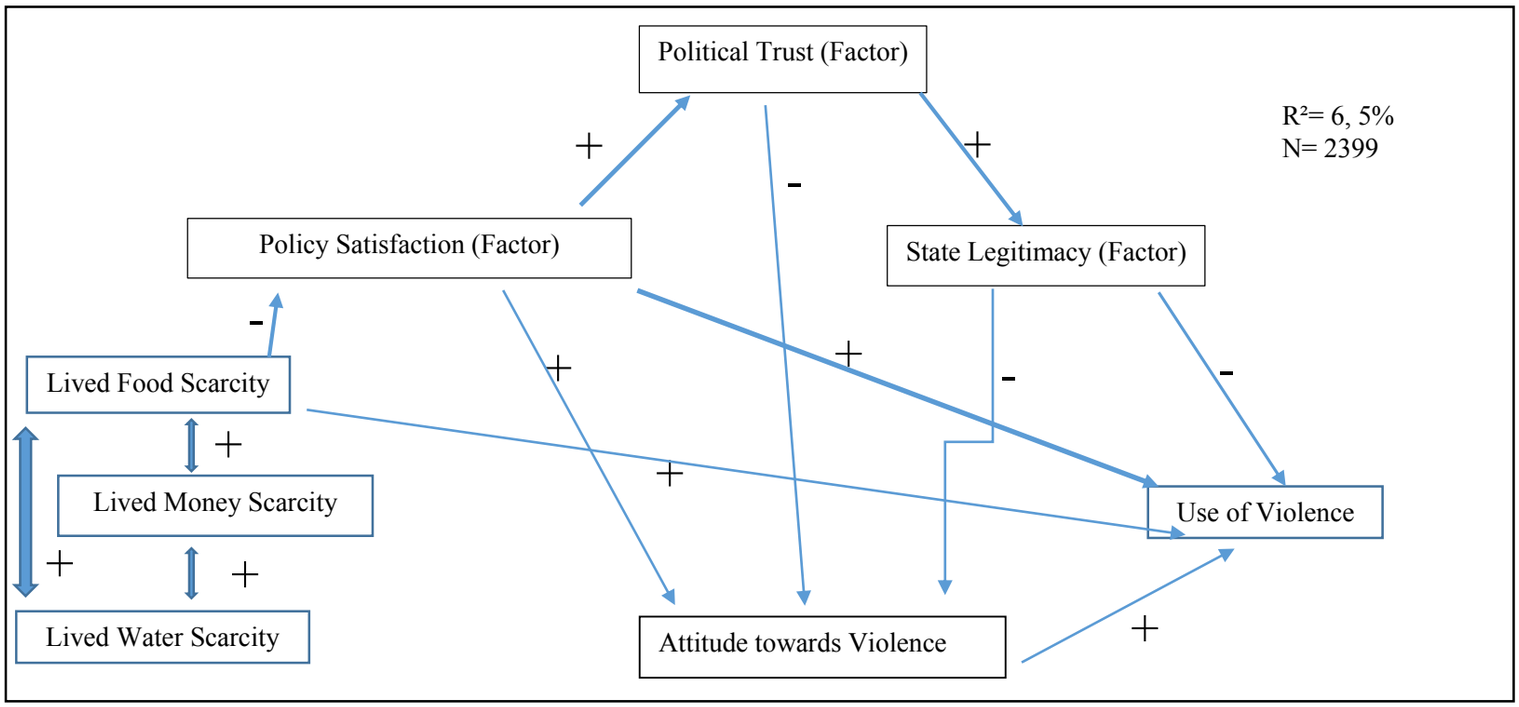
that the effects of resource scarcity on violence are primarily indirect through intermediary factors such as economic productivity, societal segmentation and institutional functioning and support. His model regards both the macro and micro levels, although subsequent research testing Homer- Dixon's model has been undertaken only at the macro level, and has produced limited and often conflicting results. Using the Afrobarometer household survey for Kenya in 2011, I tested a causal path model following Homer- Dixon's notion of indirect rather than direct effects between scarcity and violence. In contrast to previous work in this field, I measured both scarcity and violence at the micro level and tested the effects between scarcity and violence in a multi- stage path model. The use of micro level data allows me to test how 'experienced scarcity' is politicized and whether the way in which respondents politicize scarcity makes them more prone to using violence. Incrementally testing a multi-stage linkage between scarcity and violence had been suggested by Gleditsch and Urdal (2002) and Meierding (2013), and its validity was shown in the findings presented in Chapter 3. Theoretically, my multi-stage path model was informed by previous work on policy satisfaction and political trust as determinants of state legitimacy, and state legitimacy as a determinant of stability. In my thesis this model was referred to as the conceptual model. In the conceptual model, I used measures of experienced food and water scarcity as individual variables, which were both co-varied with experienced money poverty to ensure the model was not simply measuring poverty as a predictor. As secondary variables I included relative satisfaction, policy satisfaction, political trust, perceived fairness of leaders, inter-communal trust, state legitimacy and attitudes towards violence in the conceptual model. My dependent variable asks whether, and how frequently respondents had used violence for political reasons in the previous 12 months. To test the conceptual model, I derived a set of hypotheses which reflect the individual linkages within the conceptual model. Combined, the hypotheses thus fully describe my conceptual model.

Experience and Behavior: The direct and indirect effects of experienced scarcity

In my statistical analysis I proceeded in three steps. First I tested the hypotheses individually using the full Kenyan sample. These models were referred to as 'initial models'. Variables that did not demonstrate significant effects, were

dropped. The hypotheses tests allowed me to derive a model that is comprised of significant linkages between experienced food scarcity and use of violence, through both direct effects, and through indirect effects through policy satisfaction, political trust, state legitimacy and attitudes towards violence. This model was referred to as the 'revised model' (see Figure 3.47)

Figure 3.47: Revised Model for full Kenyan Sample. See Figure 3.7 for Regression Weight and Model Fit Indices.



The revised model mostly confirmed a set of causal indirect paths that were conceptually expected. However, I found a positive significant effect of policy satisfaction on use of violence, meaning that higher levels of policy satisfaction predict higher levels of use of violence. While further research is needed, a possible explanation could be that respondents who are more satisfied with policy are more expectant of overall high performance by government, and are as a result more willing to express such expectation through active engagement, possibly even violently. Because the dependent variable specifically pertains to the use of violence for a political cause and the policy satisfaction variable asks for satisfaction regarding poverty alleviation policy, the effect between policy satisfaction and use of violence could also be explained by the fact that those more highly satisfied are more likely to be wealthier and

politically involved, and as such *political* violence is more likely to be used by these respondents. In contrast, respondents who are dissatisfied with poverty alleviation policy could be assumed to be less wealthy and thus less politically involved, making it less likely for these respondents to use violence for specifically *political* purposes. Overall, the revised model for the full Kenyan sample explained 6,9% of the variance in the dependent variable.

In the initial models I found little evidence of significant effects, both direct and indirect, between experienced water scarcity and use of violence. I therefore dropped experienced water scarcity as an independent variable for the revised models, and included the variable only as a co-variate to experienced food scarcity.

Tell me who you are, and I'll tell you what you did? The conditionality of scarcity induced violence

In the second step of my analysis, I tested the effects of four moderator variables taken from work on the political role of location, ethnicity and patronage in Kenya and Africa as a whole. The moderator variables are: Urban or rural area; relative ethnic group size; absolute ethnic group size; and co-ethnicity with the Kenyan President.

The revised models suggest that significant linkages exist between experienced food scarcity and use of violence, but that these linkages are sensitive to conditional factors. As Figure 3.48 shows, the revised models explained substantially different amounts of variance for the moderator groups. This indicates that the model is more or less suited in explaining the use of violence for certain groups. Using the revised model for the full Kenyan sample to make statements about the use of violence in Kenya, would thus either over or underestimate respondents' propensity to use violence. Moreover relying on the national level model would incorrectly simplify and 'homogenize' what appear to be strong differences based on meso and micro level factors.

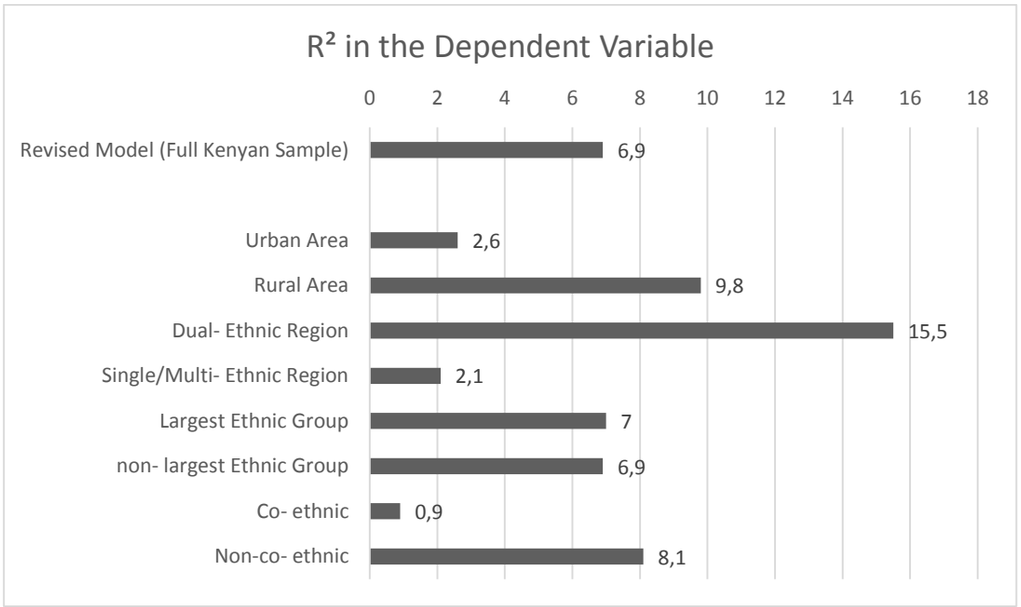


Figure 3.48: Explained variance for moderator groups in the dependent variable in the moderated revised models.

The moderated revised models suggest that experiencing food scarcity is 'politicized' more strongly in urban areas without translating directly into violence, while respondents in rural areas are more likely to use of violence as a result of experiencing food scarcity and as a result of the indirect effect of secondary variable (Figures 3.8 and 3.9). Overall the model explained a larger proportion of variance in the dependent variables for rural respondents (R^2= 9,8%) than for urban respondents (R^2= 2,6%). Moreover, experienced food scarcity appears to be a strong predictor of violence in conditions of ethnic competition at the Regional level, but not for Regions with one dominant or multiple small ethnic groups (Figures 3.10 and 3.11). This supports Reynal- Querol's (2002) argument of ethnic competition, rather than fractionalization being more strongly associated with the occurrence of violence. I found significant effects of experienced food scarcity, policy satisfaction and state legitimacy on the use of violence for respondents in dual- ethnic Regions, but only between policy satisfaction and use of violence in single- or multi- ethnic Regions. Unlike for the urban or rural groups, I found a significant negative effect between policy satisfaction and state legitimacy for dual-ethnic Regions, indicating that higher levels of policy satisfaction lead to lower levels of attributed state legitimacy. No such effect was found for multi- or single- ethnic Regions. Overall the model explained a considerably larger

proportion of variance in the dependent variable for respondents in dual- ethnic Regions (R^2= 15,5%), than respondents in single- or multi- ethnic Regions (R^2= 2,1%).

The revised models suggest that whether a respondent belonged to the largest ethnic group or not, had little or no impact on the respondent's propensity to use violence. I found only few differences between respondents who were members of the largest ethnicity in the Region and those that were not (Figures 3.12 and 3.13). For both groups the revised models met the minimal model fit indices and showed significant direct and indirect effects between experienced food scarcity and violence. Moreover the model accounted for approximately equal proportions of explained variance in the dependent variable (largest ethnic group: R^2= 7%; non-largest ethnic group: R^2= 6,99%). As I found no differenced, I dropped the absolute ethnic group size moderator from further analysis.

Experienced scarcity appears to be a strong predictor of violence for respondents who are not co- ethnic with the President, while co- ethnic respondents' use of violence appears to be linked to neither experienced scarcity nor the secondary factors. For co-ethnic respondents the moderated revised model (Figure 3.14) failed to produce any predictors for the use of violence, while producing significant direct and indirect effects for non- co- ethnic respondents (Figure 3.15). For non-co- ethnic respondents the moderated model produced significant positive effects between policy satisfaction and use of violence and between attitudes towards violence and use of violence. Moreover, for non-co-ethnic respondents, perceptions of state legitimacy has a negative effect on use of violence which is in line with the broader literature on the appeasing and stabilizing effect of state legitimacy.

Conditionality Matters. But Why?

In a third step, I re-tested the moderated revised models by including additional variables to gauge more accurately the reasons or causes for the group differences in the moderated revised models.

Additional models regarding the differences between urban and rural groups suggest that lower police presence contributes to higher levels of violence in rural areas, albeit only weakly. Supporting Adano et al (2012), police presence has a statistically significant negative effect on use of violence in rural areas, but not in urban areas (Figures

3.17 and 3.18). Coupled with the findings of Meier et al. (2007), Hendrix and Salehyan (2012) and Raleigh and Kniveton (2012) which indicate that violence is linked to strong deviations from the average availability of certain renewable resources, these findings could suggest that a temporal increase of government presence during such periods may see a substantial lowering of the prevalence of periodical, resource induced violence in those areas. However, the models also clearly indicate that sustained experienced food poverty significantly increases the use of violence in both urban and rural areas.[151] This does not necessarily oppose the findings by Meier et al (2007), Hendrix and Salehyan (2012) and Raleigh and Kniveton, but rather complements the findings by noting that absolute scarcity too, can increase the potential of violence. Beyond the direct impacts of resource induced violence, the models indicate that a gradual erosion of state legitimacy could significantly increase violence in rural areas. In this context, the significant positive linkage between inter- communal trust and state legitimacy emphasizes the importance of inclusive rather than exclusive policies, if the progressive undermining of state legitimacy in rural areas is to be avoided.

Additional tests moreover suggest that the differences between respondents living in dual-ethnic Regions and those living in single- or multi- ethnic Regions, are mainly caused by conditions unique to the Eastern Region, while the models for the two other dual- ethnic Regions were comparable to the single- and multi- ethnic Regions. The tests furthermore suggest that high levels of political competition between the largest three parties in the Eastern Region is a central cause of the high levels of violence in the Region. I also found that support or opposition of violence was affected by what party respondents supported. As such, it appears that support for the ODM party predicts more positive attitudes towards violence, while ODM-K support predicts less positive attitudes towards violence, and PNU support has no effect on attitudes towards violence. The tests also suggest that partisanship with any of the three parties had no significant effect on use of violence. In a series of subsequent descriptive tests, I found that reported use of violence was most frequently associated with ODM support, but not with any particular ethnic group. The descriptive tests also confirm that the association between ODM support and use of violence is specific to the Eastern Region, and not the party in general. What is more, the descriptive tests confirm that levels of use of violence was substantially higher for

[151] I use `sustained' as the question specifically asks for experienced food scarcity during the previous 12 months.

the Eastern Region, irrespective of which party respondents were affiliated with. This means that being supportive of the ODM, ODM-K or PNU is not associated with more or less frequent use of violence in itself, but being an ODM, ODM-K or PNU supporter *in the Eastern Region* is.

These findings possibly point towards the continued relevance of the 2007 election, in which the ODM lost in the Eastern Region to the PNU. The ODM has repeatedly fostered notions of the 2007 election outcome having been unfairly decided against them, and the findings here possibly indicate sustained disappointment on account of the ODM supporters. This interpretation would follow Anderson and Mendes (2006), who find that election losers are more likely to engage in political protest, especially in new democracies. While the questionnaire item that I use to measure violence does not address protest but violence, it is perceivable that Anderson and Mendes' (2006) notion could extend to political violence.[152]

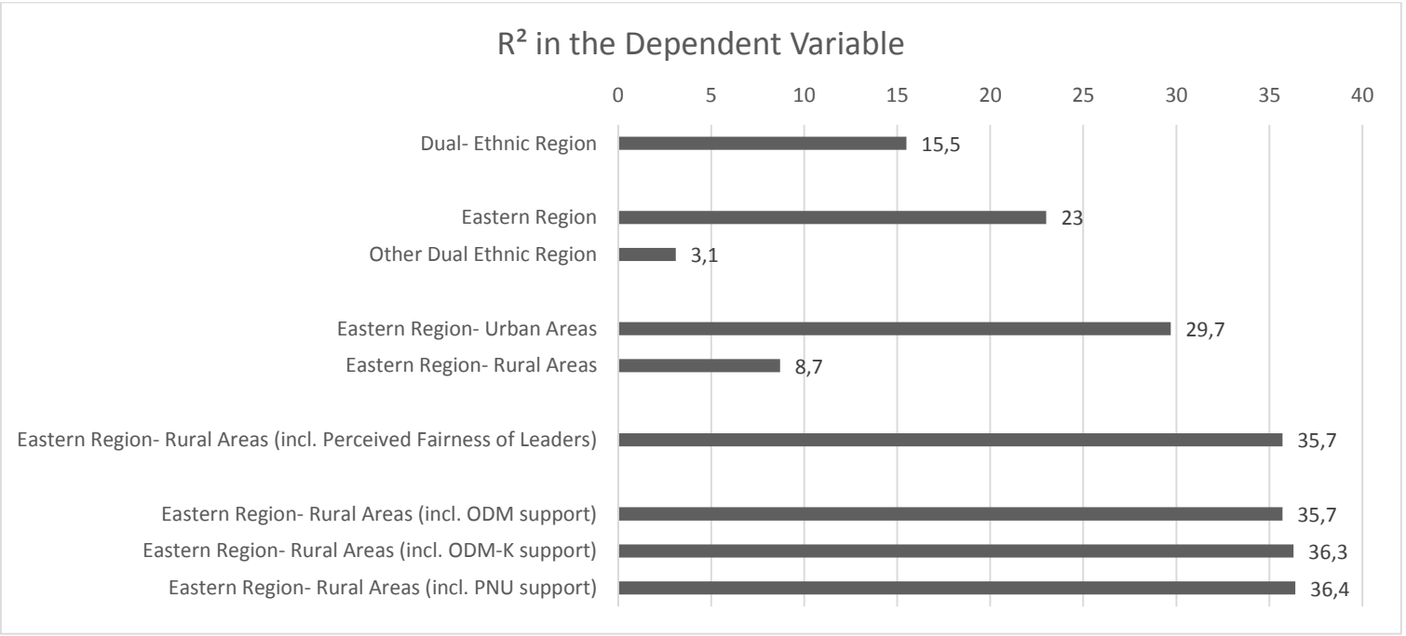


Figure 3.49: Explained variance in the dependent variable for moderated revised models in dual- ethnic Regions

Neither the path analyses nor the descriptive tests indicate to what *extent* partisanship explains the use of violence in the rural areas of the Eastern Region. The path analyses however indicate statistically significant indirect paths between

[152] As Moehler (2006) finds, election losers may display higher levels of protests, however election losers are not necessarily less supportive of democracy and democratic institutions in general. In fact Moehler (2006) finds that election losers display more critical perceptions of institutional performance which may indicate that election losers demand more accountability of elected leaders.

experienced scarcity and use of violence, which in sum account for 35,7% of the variance in the dependent variable. Although the squared multiple correlations of the secondary variables indicate that these are instrumental in explaining the use of violence, the revised path models emphasizes that experienced (food) scarcity *can* be asserted to be an underlying causal factor in respondents' propensity to use violence, albeit mostly through its indirect effect on secondary factors. A comparison of the share of explained variance in the dependent variable between the model with and without partisanship (see Figure 3.49), moreover shows that including partisanship in the model only marginally increased the share of explained variance in the dependent variable. This provides only weak support for Homer- Dixon and Blitt (1998), who argue that scarcity induced violence tends to be more frequent when grievances or sentiments regarding scarcity are captured and instrumentalized by an unifying entity (such as an ethnic group or a political party). While the tests suggest that ethnicity did not drive violence, it is important to note that a measure of party membership or active participation in a party would be better measures of Homer- Dixon and Blitt's argument, as voting behavior alone may not be sufficient in capturing the underlying dynamics alluded to by the authors.

Lastly, additional models confirmed that the group differences between respondents who are co-ethnic with the President and those that are not, were, to a large extent, caused by the high levels of reported violence in the Eastern Region (which is predominantly populated by respondents who are not co-ethnic with the President). I thus refrained from further analysis of this moderator. Nonetheless, it appears that being co-ethnic with the President *has* significant effects on the relation between experienced food scarcity and secondary variables, but is not a useful factor to consider in explaining the use of violence. While these findings support previous work on ethnicity- based patronage in Kenyan politics, the findings do not indicate that such patronage is *necessarily* a cause of violence.

The Return of the Belly? Experienced Food Scarcity as a Cause of Violence

Will we see growing violence as a result of changes in the supply, demand and distribution of renewable resources, especially those for human consumption? Will these changes *directly* trigger violence? What are mid- and long-term effects of these changes? And are certain groups more likely to display violence when they experience scarcity? Drawing from the discussion above I return to the three research questions presented in the introduction. First, I asked whether people who reported having gone without food or water more frequently, reported significantly different levels of the use of violence than people who reported having gone without food or water less frequently. Here, the empirical analysis suggests that significant differences exist. However the analysis demonstrated that the relation between experienced scarcity and use of violence only exists for food, not water. A possible explanation might be that food is likely to be comprised of private ownership goods, i.e. owned by the farmer, the market stall holder or the supermarket. Water however might be supplied through communal wells or natural sources from which it is more difficult, or impossible, to exclude people. Moreover, habitation is more likely to evolve in the first place where water is available and in constant supply. As such, it would be less likely to find large settlements living in areas with insufficient water supply. Of course growing scarcity of water could very feasibly have the potential to cause violence in the future, however no evidence was found in the models for Kenya in 2011.[153]

In the second research question, I asked whether going without food or water had a direct impact on people's propensity to use violence, or whether people's propensity to use violence was mediated by social and political attitudes. My analysis presented clear indication that significant linkages exist between experienced food scarcity and use of violence through both direct and indirect paths.[154] For the full Kenyan sample I found that policy satisfaction, political trust, state legitimacy and attitudes towards violence partially mediate the direct effect between experienced food scarcity and use of violence. While the findings do not reflect Homer- Dixon's (1999) exact model (mainly because I did not include most of the 'social

[153] For an overview of literature on the future risks of violence or conflict over water see: Conca (2006)

[154] The models indicate significant direct and indirect effects. It is important to note that this can be interpreted both as indirect effects having significant effects on the dependent variable 'above and beyond' the direct effect, but also be interpreted as the direct effects being significant regardless of the additional attitudinal and behavioral variables included.

effects' proposed by Homer-Dixon), the findings support Homer- Dixon's conceptual argument of framing and measuring the linkage between scarcity and violence as a multi- stage causal model.

Moreover the revised models point towards possible mid- and long- term causes of violence. Decreased levels of political trust and state legitimacy are especially likely to shift people's attitudes towards more positive perceptions of violence. Low levels of state legitimacy, for some groups, also displayed direct effects on the use of violence. These linkages suggest that the experience of scarcity can change people's perceptions and attitudes not only towards violence, but also the state in general. In the mid- to long- term this could weaken the state and make mediation between conflicting groups within society more difficult. The models however also clearly suggest that political management can either emphasize or weaken these effects. Here, more inclusive policy making by leaders could decrease positive attitudes towards violence and the use of violence.

In the third research question, I asked whether the proposed relation between experienced scarcity and use of violence held for all respondents, or whether it was dependent upon meso- level factors, such as ethnicity, political representation and place of living. The empirical models suggest significant differences between the moderator groups. I found that meso-level factors play a pivotal part in the causal relation between experienced scarcity and the use of violence. As Figure 3.50 displays, examining the use of violence at the national level gives no indication of use of violence for groups and areas at local and regional levels. In fact, using only a measure at the national level would dangerously underestimate the use of violence and fail to highlight specific micro- and meso- level drivers of violence. For the case of Kenya, the highest levels of violence are found for ODM supporters in the rural areas of the Eastern Region who experienced moderate levels of food scarcity. While such a description could accurately be described as Kenya- specific, a broader, more conceptual interpretation would note that the highest levels of violence are found amongst respondents who are moderately affected by food scarcity, support a party that lost the most recent election (apparently unfairly so too), in a Region that is both highly competitive politically and experienced high levels of scarcity. It is precisely this ability to define and specify micro- and meso- level groups for which the linkages are strongest that underline the value of positing research on this subject at lower levels of analysis in future. While the available data from Afrobarometer regarding attitudes and perceptions of local

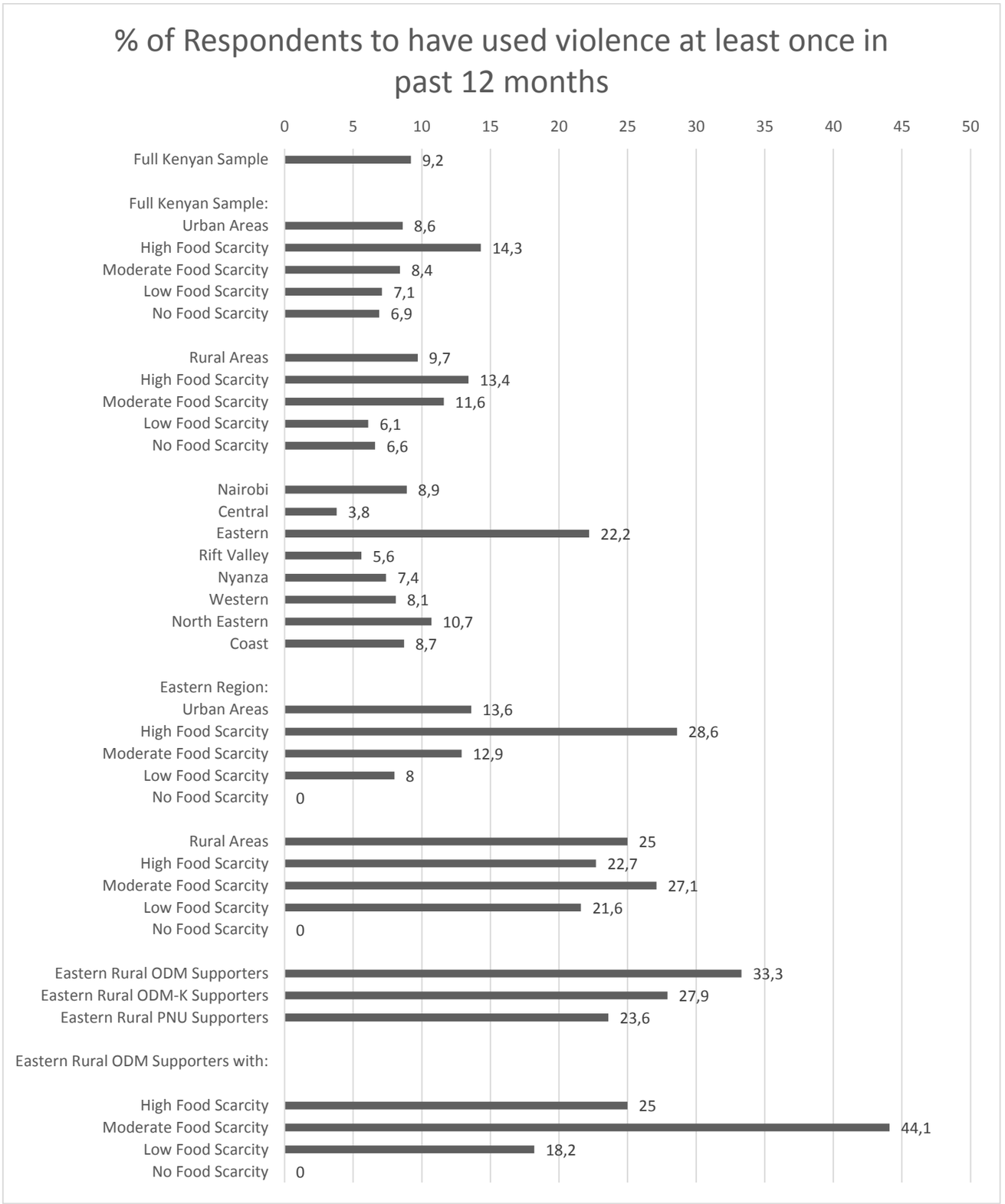


Figure 3.50: Respondents who reported to having used violence at least once in past 12 months.

governance is limited, future research at the local level is advisable. The models have clearly pointed towards the relevance of low level governance and previous research has found local level governance to be especially relevant in addressing dispute over land- access and land-usage.[155] Following such approach would require not only the introduction of new variables and the use of alternative data, but require a causal model that acknowledges the causal linkages between local experience of scarcity and local political attitudes and perceptions, as well as the linkages between local political governance and national governance. Following the presented findings above, the Eastern Region, in particular rural areas could prove a valuable first case for deeper scrutiny.

Of course a number of limitations should be scrutinized by future research on this topic. First, re- testing of the initial and revised models across countries and over time is advised. While the models in my thesis are statistically robust for Kenya in 2011, the findings may be specific to the case. In this context the changing association between ethnic groups and political parties over time could highlight whether experienced scarcity impacts propensity to use violence in combination with political partisanship or irrespective of political partisanship. Second, future research should emphasize the role of specific staples and goods in regard to the composition of experienced scarcity. Here the construction of variables indicating the dependency of a country or sub- national Region on certain staples could prove insightful. Such analysis should moreover assess the origins of experienced scarcity to allow for deeper differentiation of causal models and provide better understanding for policy makers and researchers alike. Third, future research should attempt to combine both national level and sub- national levels in single models. This could be especially interesting in cross-country comparisons and could take the form of nested structural equation models or multi-level modelling analysis. In this context a larger sample is necessary as the estimates presented in the models for the Eastern Province may be overestimated due to limited cases at the sub-national level. Forth, the dependent variable used in my analysis specifically asked respondents about the use of violence for *political* reasons. From the wording of the question it is thus not apparent how, why and when respondents perceived use of violence to have been for political or for other reasons. Applying a more differentiated measure to the use of violence may thus be advisable. Moreover the question

[155] See Boone (2014)

asks the respondent to report only violence used in the past 12 months. It is however difficult to gauge whether respondents are able to accurately differentiate such time frames. Lastly, a cases study approach examining the 'politization' of scarcity prior and during the 2011 election by various political parties and interest groups would have allowed for a closer linkage between the perception and experience of scarcity and the use of violence for political means, possibly instrumentalized by parties or candidates in the 2011 National Election. In this context scrutinizing the role of party- affiliated militia and groups could assist in embedding the empirical findings presented in this thesis, in the actual political landscape of Kenya in 2011.[156]

Overall I can conclude that the research design applied in this thesis has allowed for findings that would not have been obtainable with previously applied macro- level analysis. Both the use of a multi- stage structural equation model and the application of household- level data has contributed to my analysis tracing the causal linkages more precisely in comparison to previous research. The growing availability of relevant household survey data and the findings presented here should thus motivate a renewed vigour in this field of research, and hopefully aide the formulation of more valid and robust theoretical models. As suggested by the models of this thesis, experiencing scarcity not only affects people's propensity to use violence but also affects their political perceptions and attitudes. While previous research has found limited evidence of direct effects of scarcity on violence, an established body of work has suggested how political perceptions and attitudes can produce violence and conflict. Further attempts to integrate these two fields of research are thus needed.

Growing environmental scarcity, whether climate change induced or not, is likely to change the way we live in a myriad of ways. Some of these changes may spell violence, especially for those who are already suffering most from scarcity today. As I write these final remarks, global leaders are convening at the 2015 Paris COP21 Climate Summit to debate a renewed effort to arrest climate change and reduce its effects. It is perhaps time that research too renewed its efforts to fully understand what is at stake. Rethinking the ways in which such renewed academic efforts are designed and tested could prove to be a valuable first step.

[156] For an overview of party- affiliate militia and violent socio-ethnic groups in Kenya see: Meredith (2011), Atieno (2007) and Kagwanja (2003)

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Appendix

Section 1.1 Survey Items used in Analysis. Case number, Mean,Standard deviation,Minimum,Maximum. Afrobarometer Survey 2011

Descriptive Statistics for Variables Used In Analysis

Variable (Used for Factor or recoding)		N	Mean	Standard Deviation	Minimum	Maximum
Dependent Variables						
Use of Violence	Q26e. Used force or violence for a political cause	2399	0,127	0,5035	0	4
Independent Variables						
Lived Food Poverty	Q8a. How often gone without food	2399	1,5498	0,90023	0	3
Lived Water Poverty	Q8b. How often gone without water	2399	0,9374	1,12605	0	3
Relative Lived Food Poverty	Q8a. How often gone without food	2399	0	0,85802	-1,71	2,06
Relative Lived Water Poverty	Q8b. How often gone without water	2399	0	1,12422	-2,17	1,12
Secondary Variables						
Personal Satisfaction	Q3b. Your present living conditions	2399	0,9644	1,111	0	4
Relative Personal Satisfaction	Q4. Your living conditions vs. others	2399	1,6304	0,97847	0	4
Political Satisfaction (Factor)	Q65a. Handling managing the economy Q65b. Handling improving living standards of the poor Q65c. Handling creating jobs Q65d. Handling keeping prices down Q65e. Handling narrowing income gaps	2399	0,5181	0,57762	0	3
Executive National Political Trust	Q59a. Trust president	2399	1,814	1,0015	0	3
Legislative National Political Trust	Q59b. Trust parliament/national assembly	2399	1,518	0,972	0	3
Legislative Local Political Trust	Q59e. Trust your elected local government council	2399	1,237	0,9709	0	3

Societal Segmenatation	Q88d-ken. Trust members of other communities	2399	1,265	0,8473	0	3
State Legitimacy (Factor)	Q48a. Courts make binding decisions Q48b. People must obey the law Q48c. People must pay taxes	2399	2,6012	0,93552	0	4
Attitude towards Violence	Q78. Violence never justified vs. sometimes necessary	2399	0,5975	0,84412	0	3
Elected Officials Favouritism	Q18.Leaders help own community vs. treat all equally	2399	2,105	1,09686	0	3

Moderators

		N (Missing)	Urban (N)	Rural (N)	Urban (%)	Rural (%)
Urban/ Rural	URBRUR	2399 (0)	919	1480	38.3%	61.7%

		N(Missing)	Yes(N)	Yes(%)	No(N)	No(%)
Co-Ethnicity with President Kagame	Computed using: Q84. Tribe or ethnic group	2361 (38)	480	20.0%	1881	78.4%
Biggest Ethnic Group in Sub-national Region	Computed using: Q84. Tribe or ethnic group	2366 (33)	1344	56.0%	1022	42.6%
Significant Ethnic Group in Sub-National Region	Computed using: Q84. Tribe or ethnic group	2368 (31)	567	23.9%	1801	76.1%
Dual Ethnic Region	Computed using: Q84. Tribe or ethnic group	2399	880	36.7%	1519	63.3%

Section 1.2- Variable Selection[157]

Dependent Variable:

Question Number: Q26E
Question: Here is a list of actions that people sometimes take as citizens. For each of these, please tell me whether you, personally, have done any of these things during the past year. If not, would you do this if you had the chance: Used force or violence for a political cause
Variable Label: Used force or violence for a political cause
Values: 0-4, 9, 998, -1
Value Labels: 0=No, would never do this, 1=No, but would do if had the chance, 2=Yes, once or twice, 3=Yes, several times, 4=Yes, often, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: Afrobarometer Round5

Independent Variables:

Experienced Food Scarcity

Question Number: Q8A
Question: Over the past year, how often, if ever, have you or anyone in your family gone without: Enough food to eat?
Variable Label: How often gone without food
Values: 0-4, 9, 998, -1
Value Labels: 0=Never, 1=Just once or twice, 2=Several times, 3=Many times, 4=Always, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: NDB

Experienced Water Scarcity

Question Number: Q8B
Question: Over the past year, how often, if ever, have you or anyone in your family gone without: Enough clean water for home use?
Variable Label: How often gone without water
Values: 0-4, 9, 998, -1
Value Labels: 0=Never, 1=Just once or twice, 2=Several times, 3=Many times, 4=Always, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: NDB

Experienced Money Poverty (Factor):

Question Number: Q8C
Question: Over the past year, how often, if ever, have you or anyone in your family gone without: Medicines or medical treatment?
Variable Label: How often gone without medical care
Values: 0-4, 9, 998, -1
Value Labels: 0=Never, 1=Just once or twice, 2=Several times, 3=Many times, 4=Always, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: NDB

Question Number: Q8D
Question: Over the past year, how often, if ever, have you or anyone in your family gone without: Enough fuel to cook your food?
Variable Label: How often gone without cooking fuel
Values: 0-4, 9, 998, -1
Value Labels: 0=Never, 1=Just once or twice, 2=Several times, 3=Many times, 4=Always, 9=Don't know,

[157] All information presented in Section 1.2 is taken from the Afrobarometer Codebook for Kenya, Round 5

998=Refused to answer, -1=Missing data
Source: SAB

Question Number: Q8E
Question: Over the past year, how often, if ever, have you or anyone in your family gone without: A cash income?
Variable Label: How often gone without a cash income
Values: 0-4, 9, 998, -1
Value Labels: 0=Never, 1=Just once or twice, 2=Several times, 3=Many times, 4=Always, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: SAB

Secondary Variables:

Relative Personal Satisfaction

Question Number: Q4
Question: In general, how do you rate your living conditions compared to those of other Kenyans?
Variable Label: Your living conditions vs. others
Values: 1-5, 9, 998, -1
Value Labels: 1=Much worse, 2=Worse, 3=Same, 4=Better, 5=Much better, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: NDB, Zambia96

Policy Satisfaction (Factor)

Question Number: Q65A
Question: Now let's speak about the present government of this country. How well or badly would you say the current government is handling the following matters, or haven't you heard enough to say: Managing the economy?
Variable Label: Handling managing the economy
Values: 1-4, 9, 998, -1
Value Labels: 1=Very badly, 2=Fairly badly, 3=Fairly well, 4=Very well, 9=Don't know/Haven't heard enough, 998=Refused to answer, -1=Missing data
Source: SAB
Note: Interviewer probed for strength of opinion.

Question Number: Q65B
Question: Now let's speak about the present government of this country. How well or badly would you say the current government is handling the following matters, or haven't you heard enough to say: Improving the living standards of the poor.
Variable Label: Handling improving living standards of the poor
Values: 1-4, 9, 998, -1
Value Labels: 1=Very badly, 2=Fairly badly, 3=Fairly well, 4=Very well, 9=Don't know/Haven't heard enough, 998=Refused to answer, -1=Missing data
Source: Afrobarometer Round 4
Note: Interviewer probed for strength of opinion.

Question Number: Q65C
Question: How well or badly would you say the current government is handling the following matters, or haven't you heard enough to say: Creating jobs?
Variable Label: Handling creating jobs
Values: 1-4, 9, 998, -1
Value Labels: 1=Very badly, 2=Fairly badly, 3=Fairly well, 4=Very well, 9=Don't know/Haven't heard enough, 998=Refused to answer, -1=Missing data
Source: NDB

Note: Interviewer probed for strength of opinion.

Question Number: Q65D
Question: How well or badly would you say the current government is handling the following matters, or haven't you heard enough to say: Keeping prices down?
Variable Label: Handling keeping prices down
Values: 1-4, 9, 998, -1
Value Labels: 1=Very badly, 2=Fairly badly, 3=Fairly well, 4=Very well, 9=Don't know/Haven't heard enough, 998=Refused to answer, -1=Missing data
Source: NDB
Note: Interviewer probed for strength of opinion.

Question Number: Q65E
Question: How well or badly would you say the current government is handling the following matters, or haven't you heard enough to say: Narrowing gaps between rich and poor?
Variable Label: Handling narrowing income gaps
Values: 1-4, 9, 998, -1
Value Labels: 1=Very badly, 2=Fairly badly, 3=Fairly well, 4=Very well, 9=Don't know/Haven't heard enough, 998=Refused to answer, -1=Missing data
Source: SAB
Note: Interviewer probed for strength of opinion.

Inter-communal Trust

Question Number: Q88D_KEN
Question: How much do you trust each of the following types of people: Members of other communities?
Variable Label: Trust members of other communities
Values: 0-3, 9, 998, -1
Value Labels: 0=Not at all, 1=Just a little, 2=I trust them somewhat, 3=I trust them a lot, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: Kenya Afrobarometer Round 5

Political Trust (Factor)

Question Number: Q59A
Question: How much do you trust each of the following, or haven't you heard enough about them to say: The President?
Variable Label: Trust president
Values: 0-3, 9, 998, -1
Value Labels: 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot, 9=Don't know/Haven't heard enough, 998=Refused to answer, -1=Missing data
Source: Zambia96

Question Number: Q59B
Question: How much do you trust each of the following, or haven't you heard enough about them to say: Parliament?
Variable Label: Trust parliament/national assembly
Values: 0-3, 9, 998, -1
Value Labels: 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot, 9=Don't know/Haven't heard enough, 998=Refused to answer, -1=Missing data
Source: Adapted from Zambia96

Question Number: Q59E
Question: How much do you trust each of the following, or haven't you heard enough about them to say: Your Local Government Council?
Variable Label: Trust your elected local government council
Values: 0-3, 9, 998, -1

Value Labels: 0=Not at all, 1=Just a little, 2=Somewhat, 3=A lot, 9=Don't know/Haven't heard enough, 998=Refused to answer, -1=Missing data
Source: Adapted from Zambia96

State Legitimacy (Factor)

Question Number: Q48A
Question: For each of the following statements, please tell me whether you disagree or agree: The courts have the right to make decisions that people always have to abide by.
Variable Label: Courts make binding decisions
Values: 1-5, 9, 998, -1
Value Labels: 1=Strongly disagree, 2=Disagree, 3=Neither agree nor disagree, 4=Agree, 5=Strongly agree, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: Afrobarometer Round 2
Note: The interviewer probed for strength of opinion.

Question Number: Q48B
Question: For each of the following statements, please tell me whether you disagree or agree: The police always have the right to make people obey the law.
Variable Label: People must obey the law
Values: 1-5, 9, 998, -1
Value Labels: 1=Strongly disagree, 2=Disagree, 3=Neither agree nor disagree, 4=Agree, 5=Strongly agree, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: Afrobarometer Round 2
Note: The interviewer probed for strength of opinion.

Question Number: Q48C
Question: For each of the following statements, please tell me whether you disagree or agree: The tax authorities always have the right to make people pay taxes.
Variable Label: People must pay taxes
Values: 1-5, 9, 998, -1
Value Labels: 1=Strongly disagree, 2=Disagree, 3=Neither agree nor disagree, 4=Agree, 5=Strongly agree, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: Afrobarometer Round 2
Note: The interviewer probed for strength of opinion.

Attitudes towards Violence

Question Number: Q78
Question: Which of the following statements is closest to your view? Choose Statement 1 or Statement 2.
Statement 1: The use of violence is never justified in Kenyan politics today.
Statement 2: In this country, it is sometimes necessary to use violence in support of a just cause.
Variable Label: Violence never justified vs. sometimes necessary
Values: 1-5, 9, 998, -1
Value Labels: 1=Agree very strongly with Statement 1, 2=Agree with Statement 1, 3=Agree with Statement 2, 4=Agree very strongly with Statement 2, 5=Agree with neither, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: Ghana Afrobarometer Round 5
Note: Interviewer probed for strength of opinion asking "Do you agree or agree very strongly?"

Perceived Fairness of Leaders

Question Number: Q18
Question: Let's talk for a moment about the kind of society we would like to have in this country. Which of the following statements is closest to your view? Choose Statement 1 or Statement 2.
Statement 1: Once in office, elected leaders are obliged to help their home community or group first.

Statement 2: Since elected leaders should represent everyone, they should not do anything that favours their own group over others.
Variable Label: Leaders help own community vs. treat all equally
Values: 1-5, 9, 998, -1
Value Labels: 1=Agree very strongly with Statement 1, 2=Agree with Statement 1, 3=Agree with Statement 2, 4=Agree very strongly with Statement 2, 5=Agree with neither, 9=Don't know, 998=Refused to answer, -1=Missing data
Source: Afrobarometer Round2
Note: Interviewer probed for strength of opinion asking "Do you agree or agree very strongly?"

Control Variables

Age

Question Number: Q1
Question: How old are you?
Variable Label: Age
Values: 18-110, 998-999, -1
Value Labels: 998=Refused to answer, 999=Don't know, -1=Missing data

Education

Question Number: Q97
Question: What is the highest level of education you have completed?
Variable Label: Education of respondent
Values: 0-9, 99, 998 -1
Value Labels: 0=No formal schooling, 1=Informal schooling only (including Koranic schooling), 2=Some primary schooling, 3=Primary school completed, 4=Some secondary school/ high school, 5=Secondary school completed/high school completed, 6=Post-secondary qualifications, other than university e.g. a diploma or degree from polytechnic or college, 7=Some university, 8=University completed, 9=Post-graduate, 99=Don't know,998=Refused to answer, -1=Missing data
Source: SAB

Gender

Question Number: Q101
Question: Respondent's gender
Variable Label: Gender of respondent
Values: 1, 2
Value Labels: 1=Male, 2=Female
Source: SAB
Note: Answered by interviewer

Partisanship

Question Number: Q89B
Question: Which party is that?
Variable Label: Which party
Values: 300-318, 9995, 9997-9999, -1
Value Labels: 300=Orange Democratic Movement Party (ODM), 301= Orange Democratic Movement Party of Kenya (ODM-K), 302=Party of National Unity (PNU), 303=National Rainbow Coalition (NARC), 304=NARC Kenya, 305=Democratic Party of Kenya (DP), 306=Ford-Kenya (Ford-K), 307=Ford-People (Ford-P), 308=Kenya African National Union (KANU), 309=National Party of Kenya (NPK), 310=Shirikisho Party, 311=Ford Asili (Ford-A), 312=Labour Party of Kenya, 313=Safina, 314=Kenya African Democratic Development Union (KADDU), 315=KADDU-Asili, 316=United Democratic Party of Kenya (UDM), 317=New Ford-Kenya (New Ford-K), 318=G7, 9995=Other, 9997=Not applicable, 9998=Refused to answer, 9999=Don't know, -1=Missing data
Source: Zambia 96

Moderators

Urban or Rural Area

Question Number: URBRUR
Question: PSU/EA
Variable Label: Urban or Rural Primary Sampling Unit
Values: 1-2
Value Labels: 1=urban, 2=rural
Note: Answered by interviewer

Relative Ethnic Group Size (computed from)

Question Number: Q84
Question: Let us get back to talking about you. What is your ethnic community, cultural group or tribe?
Variable Label: Tribe or ethnic group
Values: 300-322, 9990, 9995, 9998-9999, -1
Value Labels: 300=Kikuyu, 301=Luo, 302=Luhya, 303=Kamba, 304=Kalenji, 305=Kisii, 306=Meru/Embu, 307=Masai/Samburu, 308=MijiKenda, 309=Taita, 310=Somali, 311=Pokot, 312=Turkana, 313=Tharaka, 314=Teso, 315=Sabaot, 316=Rendile, 317=Pokomo, 318=Mbeere, 319=Kuria, 320=Borana, 321=Arabic, 322=Oroma, 9990=Kenyan only or doesn't think in those terms, 9995=Others, 9998=Refused to answer, 9999=Don't know, -1=Missing data
Source: SAB
Note: Interviewer entered respondent's exact response. If respondent did not identify any group on this question – that is, if they "Refused to answer" (9998), said "Don't know" (9999), or "Kenyan only" (9990) – then the interviewer marked "Not applicable" for questions Q85A-Q85B and continued to question 85C.

Question Number: REGION
Question: Region/Province
Variable Label: Province or region
Values: 300-307
Value Labels: 300=Nairobi, 301=Central, 302=Eastern, 303=Rift Valley, 304=Nyanza, 305=Western, 306=North Eastern, 307=Coast
Note: Answered by interviewer

Absolute Ethnic Group Size (computed from)

Question Number: Q84
Question: Let us get back to talking about you. What is your ethnic community, cultural group or tribe?
Variable Label: Tribe or ethnic group
Values: 300-322, 9990, 9995, 9998-9999, -1
Value Labels: 300=Kikuyu, 301=Luo, 302=Luhya, 303=Kamba, 304=Kalenji, 305=Kisii, 306=Meru/Embu, 307=Masai/Samburu, 308=MijiKenda, 309=Taita, 310=Somali, 311=Pokot, 312=Turkana, 313=Tharaka, 314=Teso, 315=Sabaot, 316=Rendile, 317=Pokomo, 318=Mbeere, 319=Kuria, 320=Borana, 321=Arabic, 322=Oroma, 9990=Kenyan only or doesn't think in those terms, 9995=Others, 9998=Refused to answer, 9999=Don't know, -1=Missing data
Source: SAB
Note: Interviewer entered respondent's exact response. If respondent did not identify any group on this question –that is, if they "Refused to answer" (9998), said "Don't know" (9999), or "Kenyan only" (9990) – then the interviewer marked "Not applicable" for questions Q85A-Q85B and continued to question 85C.

Question Number: REGION
Question: Region/Province
Variable Label: Province or region
Values: 300-307

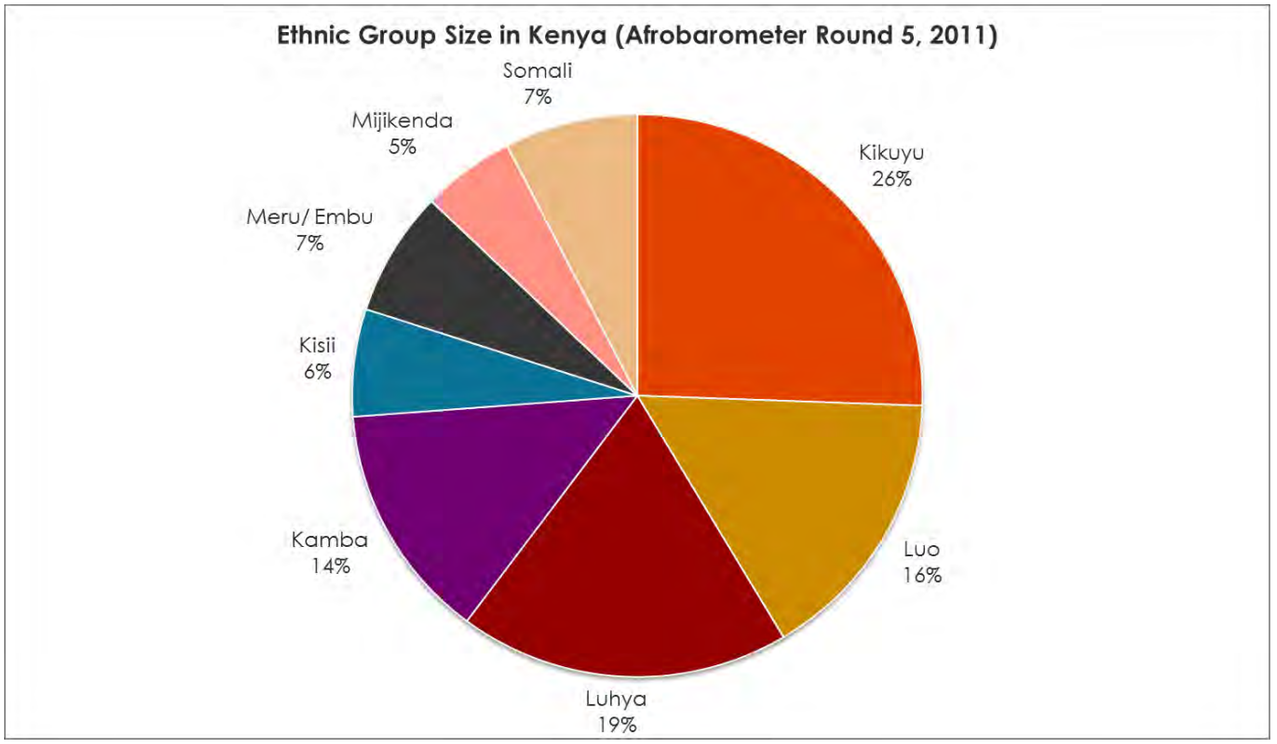
Value Labels: 300=Nairobi, 301=Central, 302=Eastern, 303=Rift Valley, 304=Nyanza, 305=Western, 306=North Eastern, 307=Coast
Note: Answered by interviewer

Co-Ethnicity with President

Question Number: Q84
Question: Let us get back to talking about you. What is your ethnic community, cultural group or tribe?
Variable Label: Tribe or ethnic group
Values: 300-322, 9990, 9995, 9998-9999, -1
Value Labels: 300=Kikuyu, 301=Luo, 302=Luhya, 303=Kamba, 304=Kalenji, 305=Kisii, 306=Meru/Embu, 307=Masai/Samburu, 308=MijiKenda, 309=Taita, 310=Somali, 311=Pokot, 312=Turkana, 313=Tharaka, 314=Teso, 315=Sabaot, 316=Rendile, 317=Pokomo, 318=Mbeere, 319=Kuria, 320=Borana, 321=Arabic, 322=Oroma, 9990=Kenyan only or doesn't think in those terms, 9995=Others, 9998=Refused to answer, 9999=Don't know, -1=Missing data
Source: SAB
Note: Interviewer entered respondent's exact response. If respondent did not identify any group on this question –that is, if they "Refused to answer" (9998), said "Don't know" (9999), or "Kenyan only" (9990) – then the interviewer marked "Not applicable" for questions Q85A-Q85B and continued to question 85C.

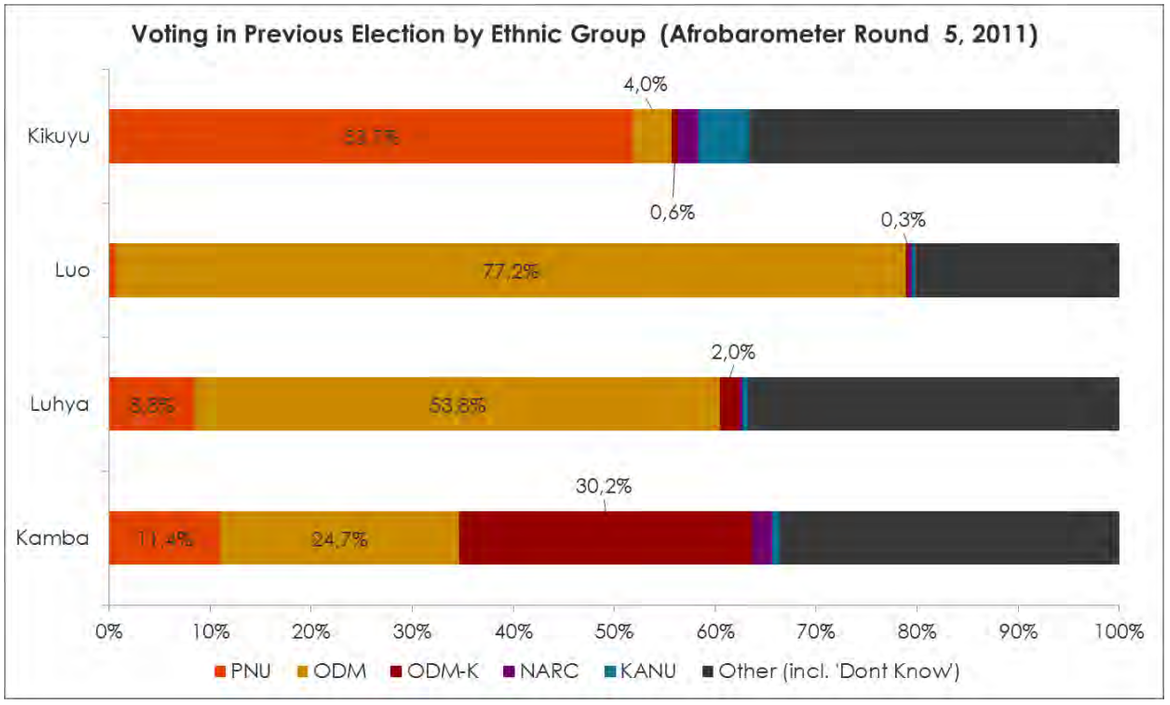
Section 2

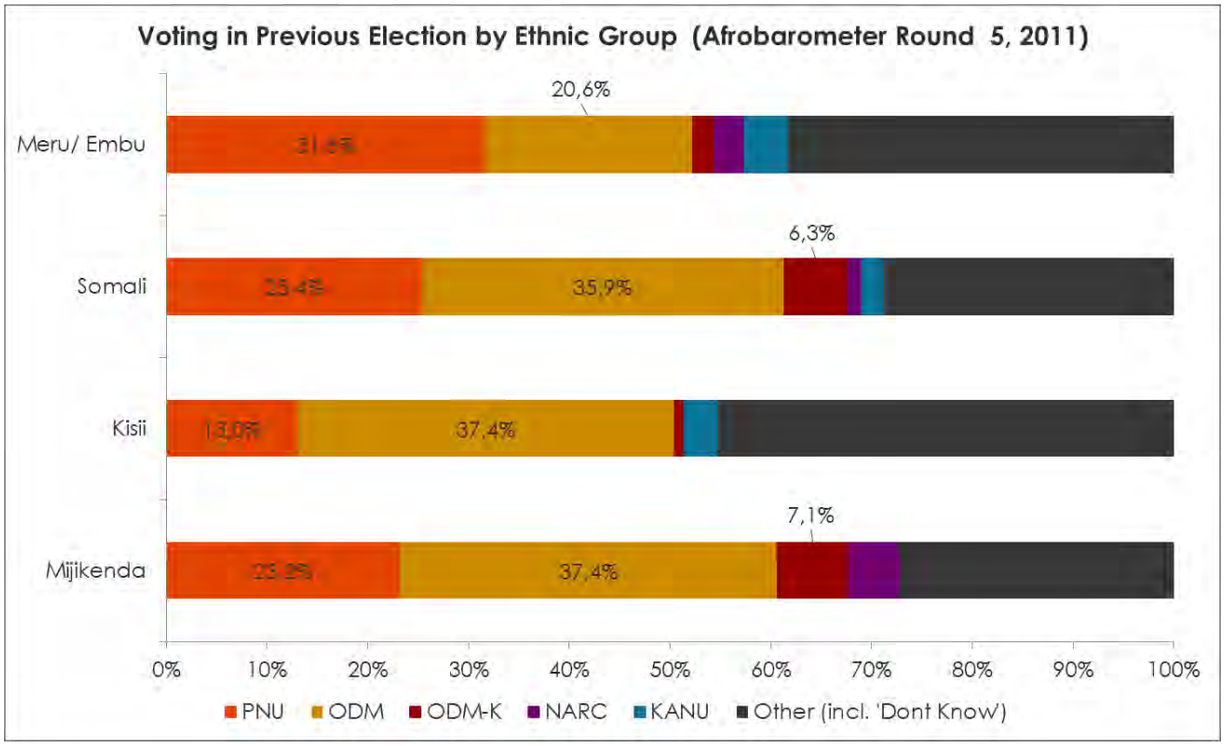
Chapter 2.6.1



Ethnic Groups (Reported) in Kenyan Sample, Afrobarometer Round 5, 2011

Reported voting in last national election by Ethnic Group





Chapter 2.6.3

Figure 2. 1- Responses (%) for 'Lived Food Poverty'

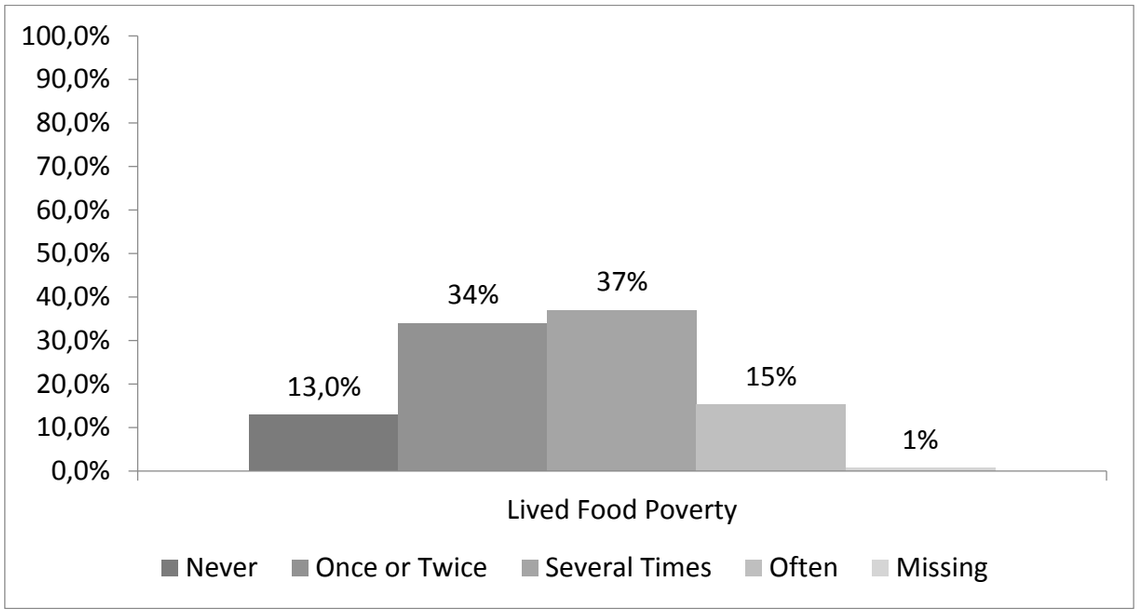


Figure 2.2- Responses (%) for 'Lived Water Poverty'

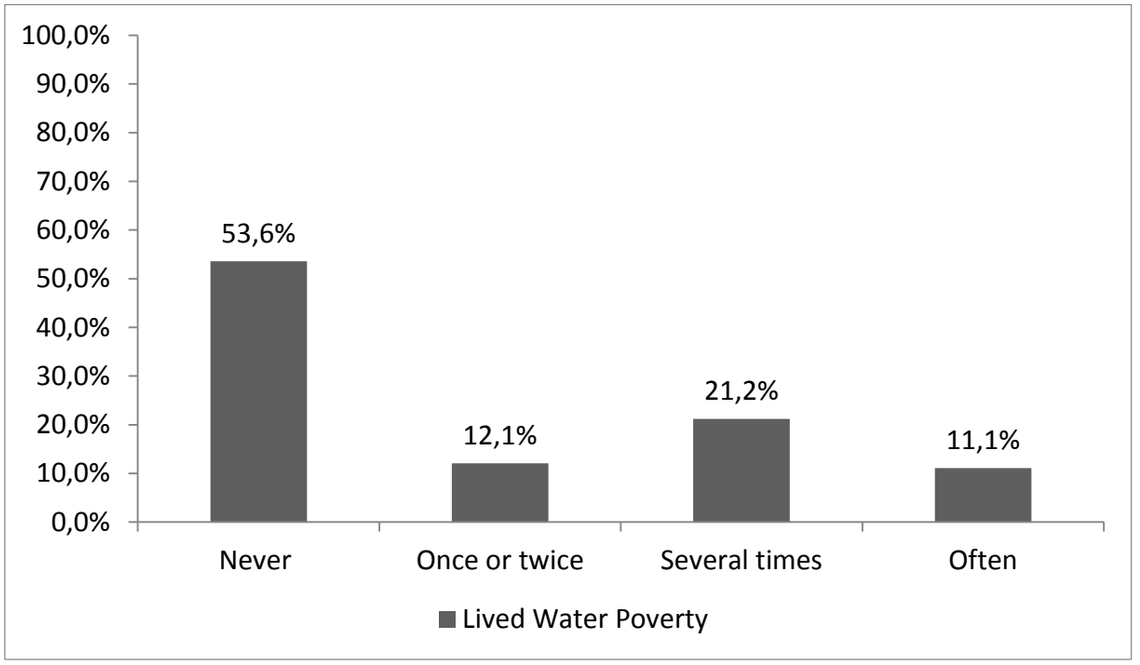


Figure 2.3- Responses (%) for 'Lived Monetary Poverty'

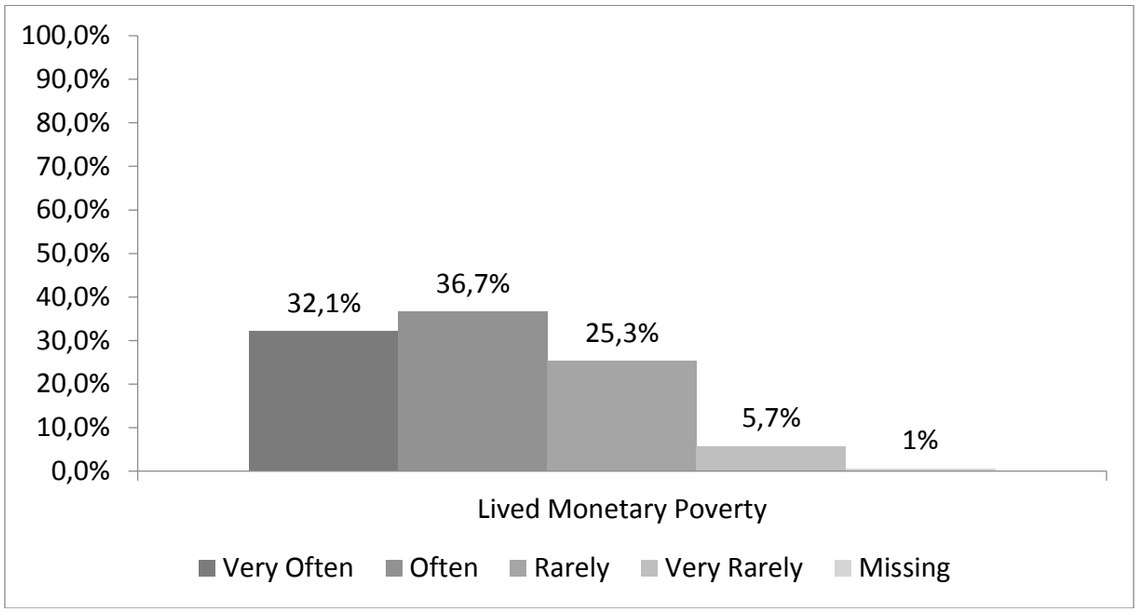


Figure 2.4- Responses (%) for 'Personal Satisfaction'

Figure 2.5- Responses (%) for 'Relative Personal Satisfaction'

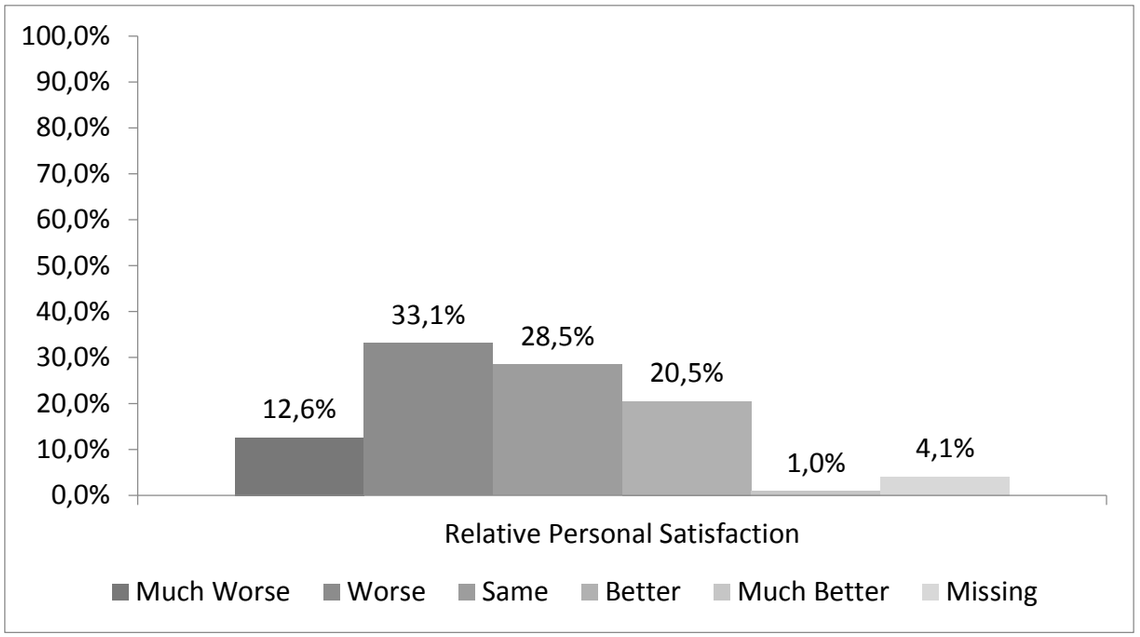


Figure 2.6- Responses (%) for 'Policy Satisfaction' (Factor)

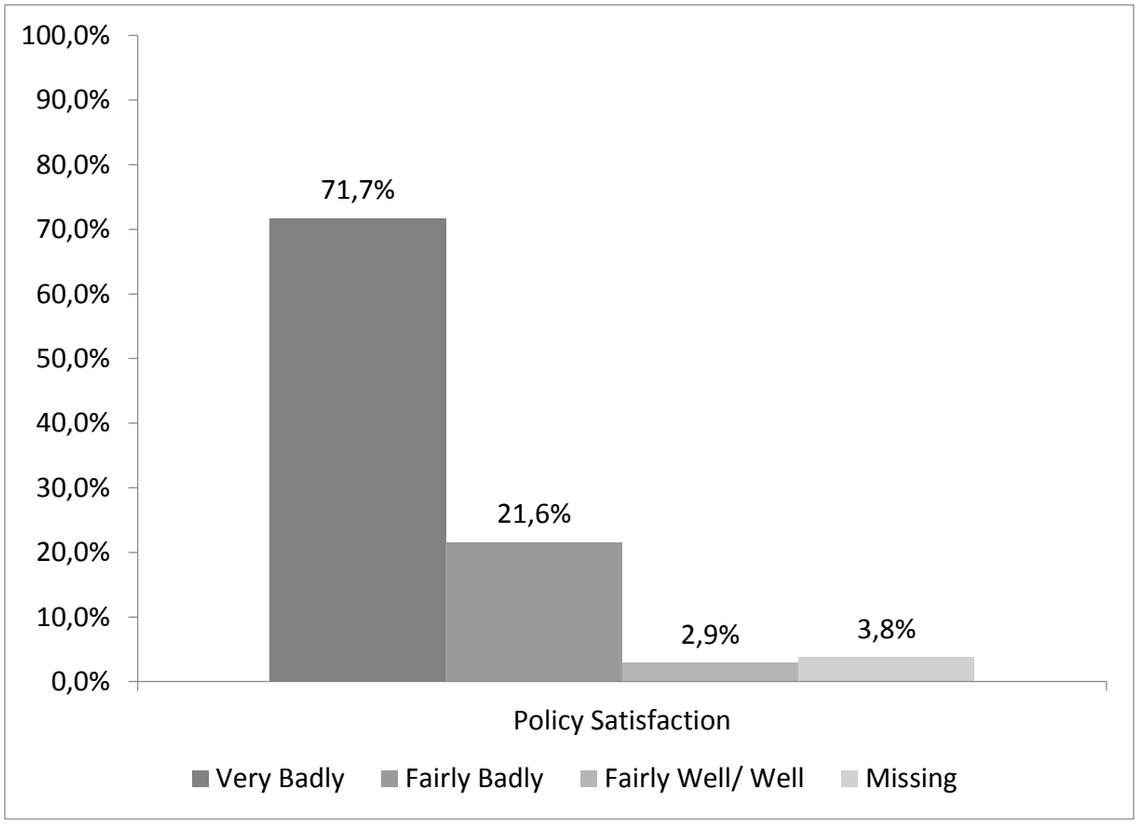


Figure 2.7- Responses (%) for 'Political Trust' (Factor)

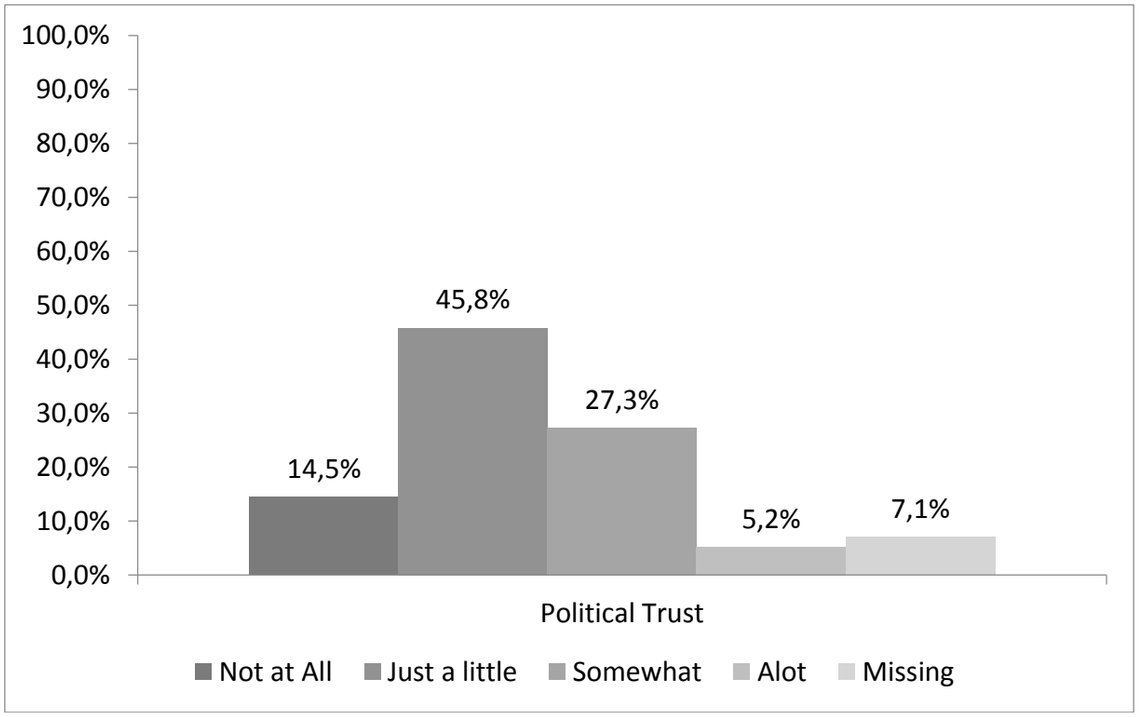


Figure 2.8- Responses (%) for 'Trust in Local Council'

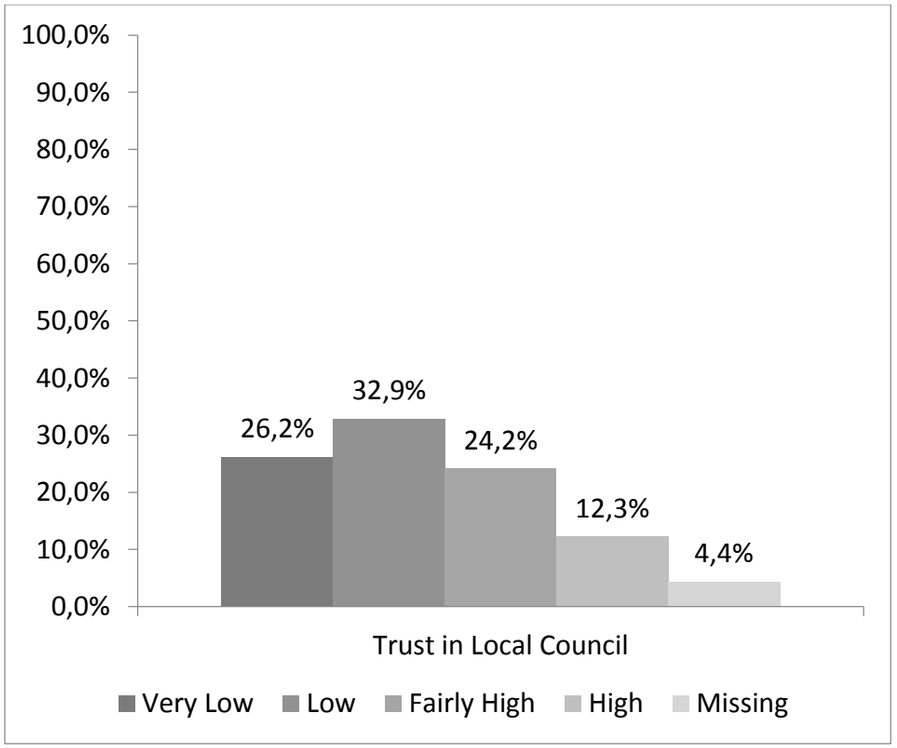


Figure 2.9- Responses (%) for 'Trust in National Parliament'

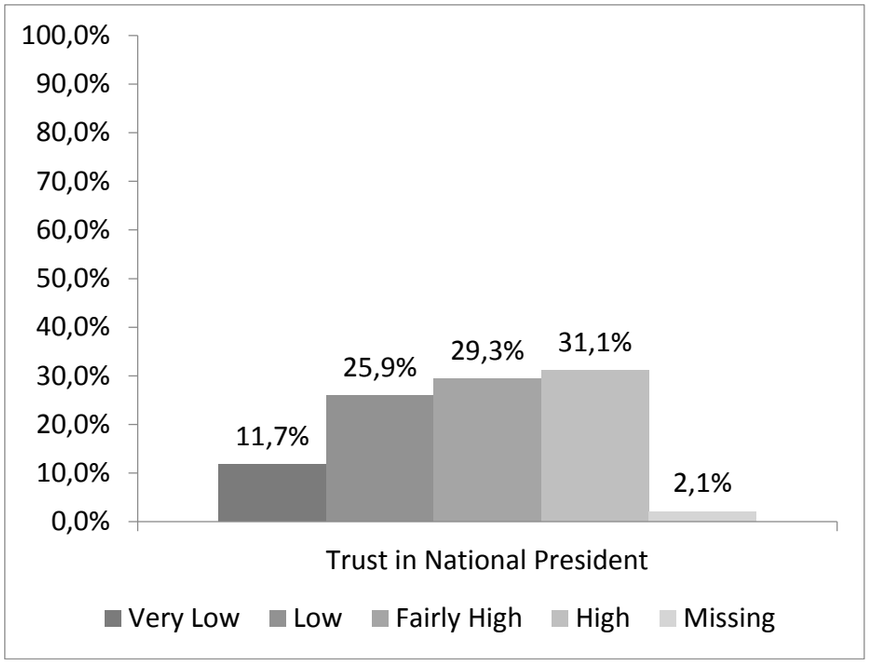


Figure 2.10- Responses %) for 'Trust in Members of other Communities'

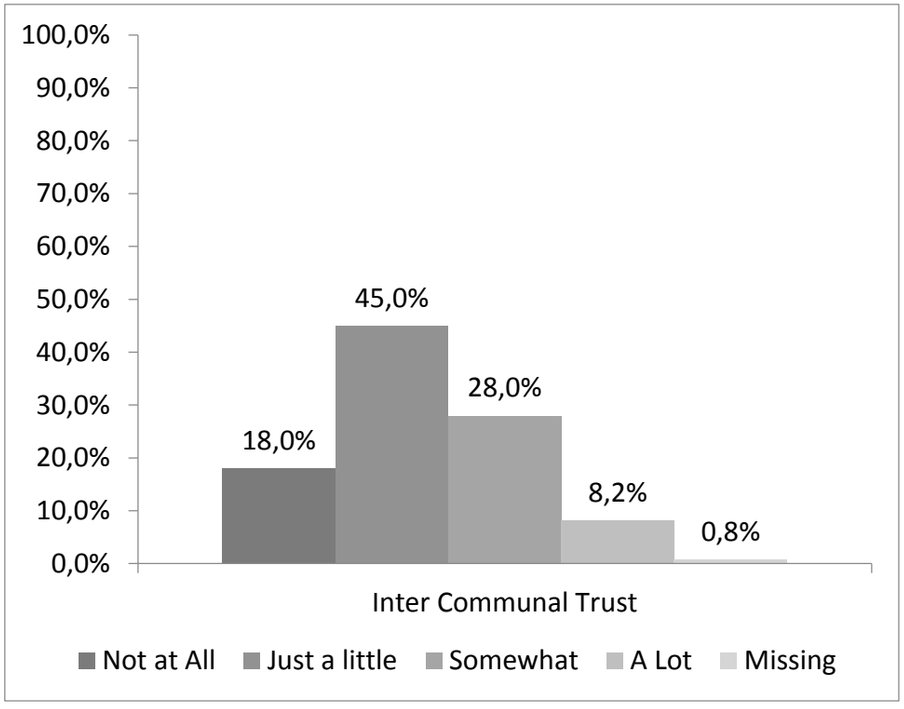


Figure 2.11- Responses (%) for 'Perceived Fairness of Leaders'

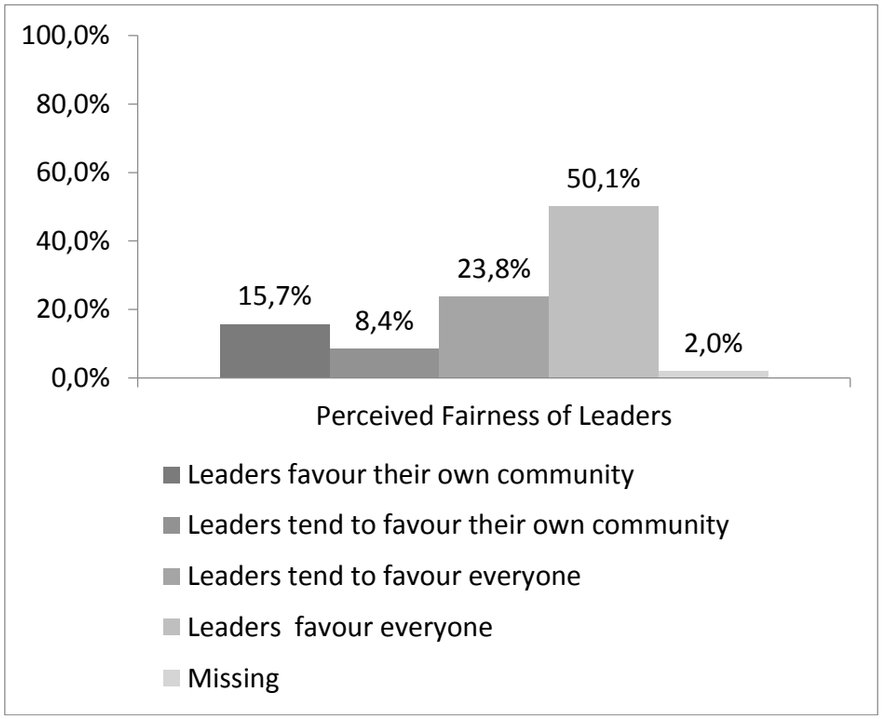


Figure 2.13- Responses (%) for 'Age Group' (recoded)

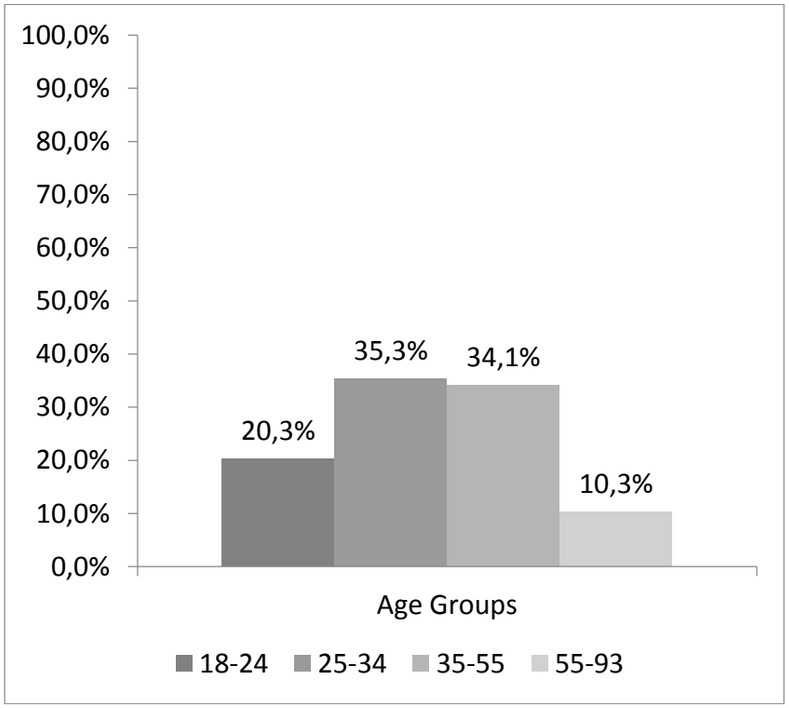


Figure 2.14 Responses (%) for Education

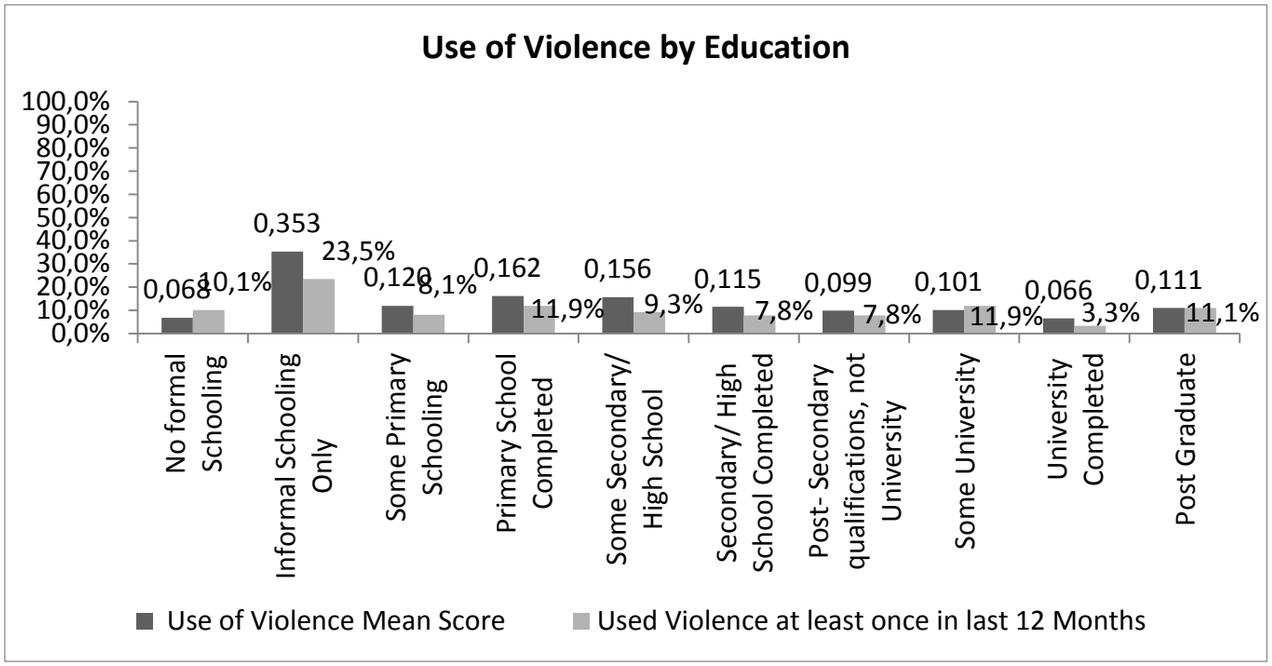


Figure 2.15 Responses (%) Gender

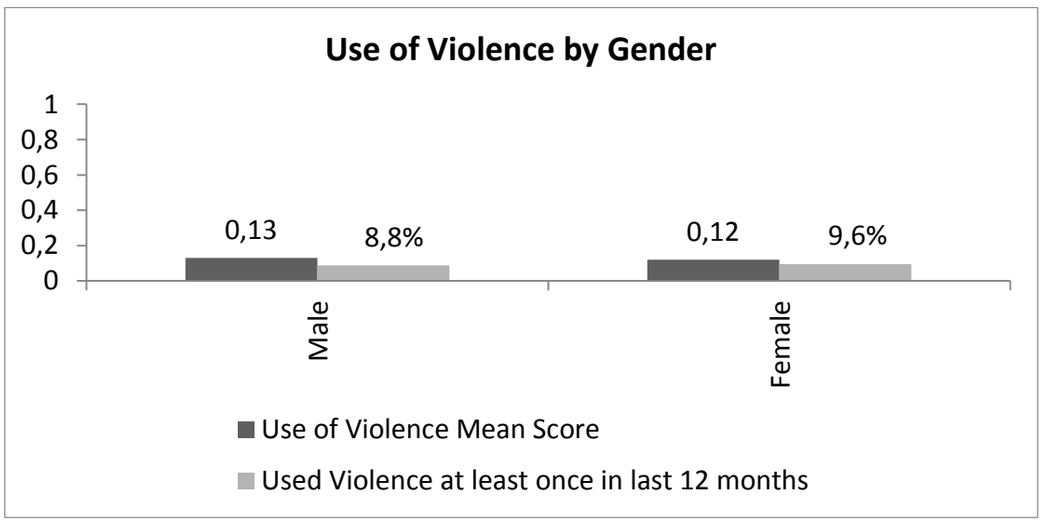


Table 2.1- Frequencies or Urban and Rural respondents

	Urban	Rural	N
N	919	1480	2399
%	38%	62%	100%

Figure 2.16- Mean score of dependent variable split by Urban and Rural respondents

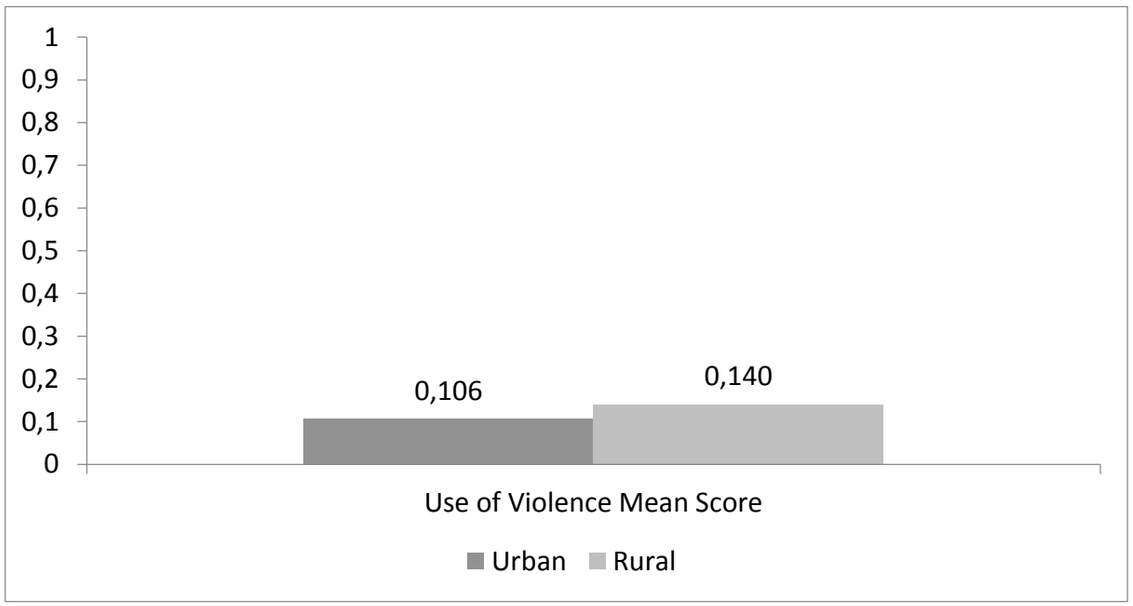


Table 2.2- Coding of Relative Ethnic Group Size. Computed from Q84, Afrobarometer Round 5 (2011), Kenya.

Region	Dual-/Single- or Multi- Ethnic	Ethnic Groups
Nairobi	Multi	Kikuyu, Luo, Luhya, Kamba
Central	Single	Kikuyu
Eastern	Dual	Kamba/ Meru, Emba
Rift Valley	Multi	Kikuyu, Luhya, Kalenjin, Turkana
Nyanza	Dual	Luo, Kisii
Western	Single	Luhya
North Eastern	Single	Somali
Coast	Dual	Mijikenda, Taita

Table 2.3- Frequencies of Responses for Q84: Nairobi Region

	Frequency	Percent	Valid Percent	Cumulative Percent
Kikuyu	68	27,4	28,6	28,6
Luo	47	19,0	19,7	48,3
Luhya	36	14,5	15,1	63,4
Kamba	35	14,1	14,7	78,2
Kalenjin	6	2,4	2,5	80,7
Kisii	9	3,6	3,8	84,5
Meru / Embu	7	2,8	2,9	87,4
Maasai / Samburu	2	,8	,8	88,2
Taita	2	,8	,8	89,1
Somali	14	5,6	5,9	95,0
Pokot	1	,4	,4	95,4
Borana	6	2,4	2,5	97,9
Arabic	1	,4	,4	98,3
Kenyan only, doesn't think of self in those terms	4	1,6	1,7	100,0
Total	238	96,0	100,0	
	Missing	2	,8	
	Others	7	2,8	
	Refused	1	,4	
	Total	10	4,0	
Total		248	100,0	

Table 2.4- Frequencies of Responses for Q84: Central Region

	Frequency	Percent	Valid Percent	Cumulative Percent
Kikuyu	295	92,2	92,8	92,8
Luo	2	,6	,6	93,4
Luhya	6	1,9	1,9	95,3
Kamba	8	2,5	2,5	97,8
Kalenjin	1	,3	,3	98,1
Kisii	1	,3	,3	98,4
Meru / Embu	3	,9	,9	99,4
Maasai / Samburu	1	,3	,3	99,7
Somali	1	,3	,3	100,0
Total	318	99,4	100,0	
Missing	Others	2	,6	
Total		320	100,0	

Table 2.5- Frequencies of Responses for Q84: Eastern Region

		Frequency	Percent	Valid Percent	Cumulative Percent
Kikuyu		3	,8	,8	,8
Luo		1	,3	,3	1,1
Luhya		4	1,1	1,1	2,2
Kamba		180	50,0	50,3	52,5
Kalenjin		1	,3	,3	52,8
Kisii		3	,8	,8	53,6
Meru / Embu		121	33,6	33,8	87,4
Maasai / Samburu		4	1,1	1,1	88,5
Mijikenda		1	,3	,3	88,8
Somali		8	2,2	2,2	91,1
Pokot		1	,3	,3	91,3
Turkana		1	,3	,3	91,6
Tharaka		10	2,8	2,8	94,4
Rendile		7	1,9	2,0	96,4
Mbeere		10	2,8	2,8	99,2
Borana		3	,8	,8	100,0
Total		358	99,4	100,0	
Missing	Missing		1	,3	
	Others		1	,3	
	Total		2	,6	
Total			360	100,0	

Table 2.6- Frequencies of Responses for Q84: Rift Valley Region

	Frequency	Percent	Valid Percent	Cumulative Percent
Kikuyu	103	17,4	17,6	17,6
Luo	19	3,2	3,2	20,9
Luhya	97	16,4	16,6	37,4
Kamba	13	2,2	2,2	39,7
Kalenjin	193	32,7	33,0	72,6
Kisii	18	3,0	3,1	75,7
Meru / Embu	4	,7	,7	76,4
Maasai / Samburu	47	8,0	8,0	84,4
Pokot	27	4,6	4,6	89,1
Turkana	60	10,2	10,3	99,3
Teso	1	,2	,2	99,5
Sabaot	1	,2	,2	99,7
Borana	2	,3	,3	100,0
Total	585	99,0	100,0	
Missing	Missing	3	,5	
	Others	3	,5	
	Total	6	1,0	
Total		591	100,0	

Table 2.7- Frequencies of Responses for Q84: Nyanza Region

	Frequency	Percent	Valid Percent	Cumulative Percent

Kikuyu	1	,3	,3	,3
Luo	202	64,7	65,6	65,9
Luhya	8	2,6	2,6	68,5
Kamba	2	,6	,6	69,2
Kalenjin	1	,3	,3	69,5
Kisii	78	25,0	25,3	94,8
Somali	1	,3	,3	95,1
Kuria	15	4,8	4,9	100,0
Total	308	98,7	100,0	
Missing	Others	4	1,3	
Total		312	100,0	

Table 2.8- Frequencies of Responses for Q84: Western Region

	Frequency	Percent	Valid Percent	Cumulative Percent
Kikuyu	2	,8	,8	,8
Luo	12	4,8	4,9	5,7
Luhya	197	79,4	80,1	85,8
Kalenjin	2	,8	,8	86,6
Kisii	2	,8	,8	87,4
Taita	1	,4	,4	87,8
Teso	22	8,9	8,9	96,7
Sabaot	7	2,8	2,8	99,6
Kuria	1	,4	,4	100,0
Total	246	99,2	100,0	
Missing	Others	2	,8	
Total		248	100,0	

Table 2.9- Frequencies of Responses for Q84: North Eastern Region

	Frequency	Percent	Valid Percent	Cumulative Percent
Somali	111	99,1	99,1	99,1
Arabic	1	,9	,9	100,0
Total	112	100,0	100,0	

Table 2.10- Frequencies of Responses for Q84: Coast Region

Ethnic Group	Frequency	Percent	Valid Percent	Cumulative Percent
Kikuyu	8	3,8	4,0	4,0
Luo	15	7,2	7,5	11,4
Luhya	4	1,9	2,0	13,4
Kamba	18	8,7	9,0	22,4
Kisii	4	1,9	2,0	24,4
Meru / Embu	1	,5	,5	24,9
Maasai / Samburu	1	,5	,5	25,4
Mijikenda	98	47,1	48,8	74,1

Taita	25	12,0	12,4	86,6
Somali	8	3,8	4,0	90,5
Pokomo	6	2,9	3,0	93,5
Arabic	5	2,4	2,5	96,0
Oroma	7	3,4	3,5	99,5
Kenyan only, doesn't think of self in those terms	1	,5	,5	100,0
Total	201	96,6	100,0	
Missing	Others	7	3,4	

Table 2.11- Frequencies for Relative Ethnic Group Size Moderator

	Dual- Ethnic	Single-/ Multi- Ethnic	N
N	880	1519	2399
%	37%	63%	100%

Figure 2.17- Mean Score of dependent variable split by Relative Ethnic Group Size. Note that the scale of the dependent variable runs from 0 to 4. Figure has been cropped for better visualization of difference

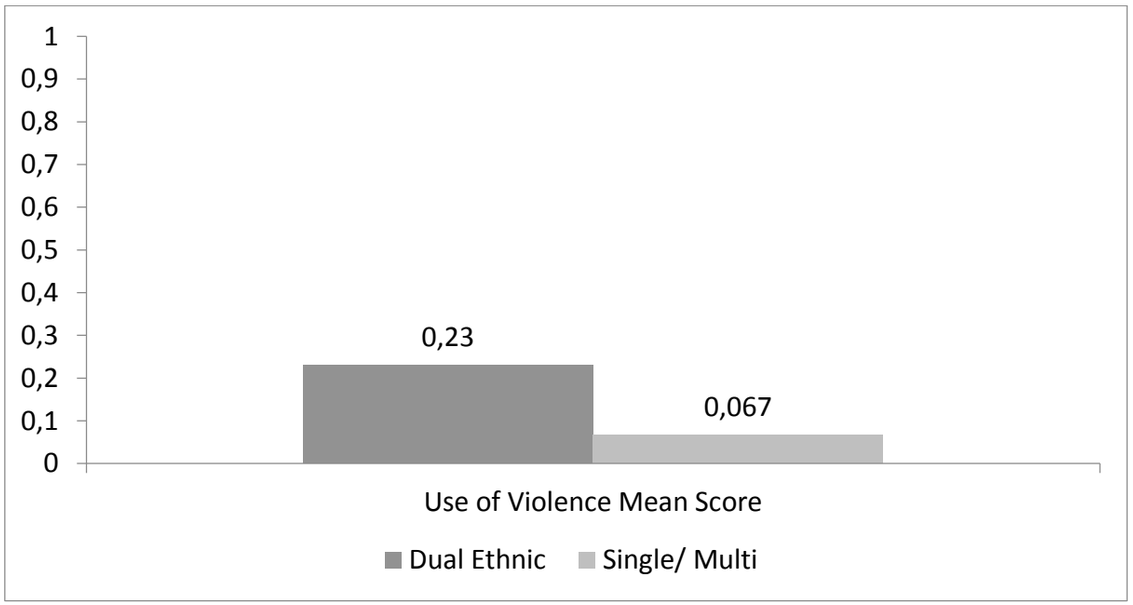


Table 2.12- Frequencies for Absolute Ethnic Group Size Moderator. Computed from Q84, Afrobarometer Round 5 (2011), Kenya

	Largest Ethnic Group in Region	Non-Largest Group in Region	N
N	1344	1022	2366
%	57%	43%	100%

Figure 2.18- Mean Score of dependent variable split by Absolute Ethnic Group Size. Note that the scale of the dependent variable runs from 0 to 4. Figure has been cropped for better visualization of difference

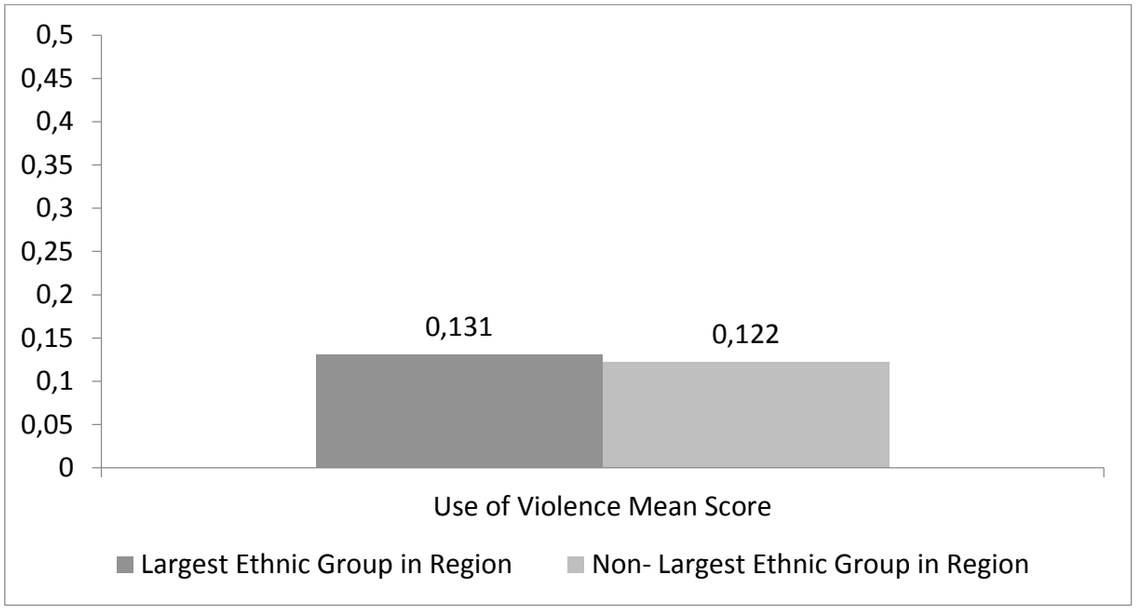
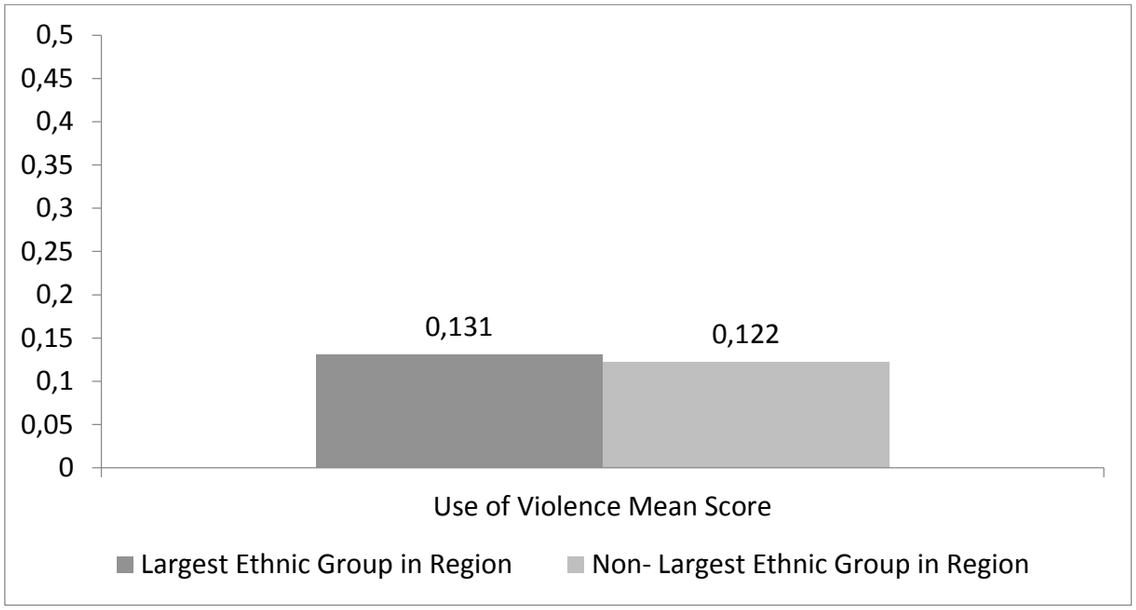


Table 2.13- Frequencies for Co-Ethnicity Moderator. Computed from Q84, Afrobarometer Round 5 (2011), Kenya

	Co- Ethnic Respondents	Non co- Ethnic Respondents	N
N	480	1881	2361
%	20%	80%	100%

Figure 2.19- Mean score of dependent variable split by co- Ethnicity with President. Note that the scale of the dependent variable runs from 0 to 4. Figure has been cropped for better visualization of difference


0,5
0,45
0,4
0,35
0,3
0,25
0,2
0,15
0,1
0,05
0
0,131
0,122
Use of Violence Mean Score
Largest Ethnic Group in Region
Non- Largest Ethnic Group in Region

Chapter 3.3

Table 3.3.1- Comparison of Unstandardized Regression Weights for Figures 3.8 and 3.9

			Urban		Rural		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,105	0	-0,065	0	1,472
Political Trust	<---	Policy Satisfaction	0,275	0	0,21	0	-1,231
State Legitimacy	<---	Political Trust	0,109	0,009	0,211	0	1,922*
Attitude towards Violence	<---	Policy Satisfaction	0,037	0,476	0,163	0	1,982**
Attitude towards Violence	<---	Political Trust	-0,105	0,008	-0,028	0,359	1,565
Attitude towards Violence	<---	State Legitimacy	-0,049	0,111	-0,088	0	-1,018
Attitude towards Violence	<---	Lived Food Scarcity	-0,035	0,264	0	0,986	0,898
Use of Violence	<---	Lived Food Scarcity	0,055	0	0,068	0	0,586
Use of Violence	<---	State Legitimacy	-0,009	0,526	-0,089	0	-3,818***
Use of Violence	<---	Policy Satisfaction	0,069	0,005	0,214	0	4,254***
Use of Violence	<---	Age	-0,001	0,965	-0,037	0,012	-1,692*
Use of Violence	<---	Attitude towards Violence	0,042	0,009	0,057	0	0,653

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.3.2: Standardized Regression Weights for Figure 3.8

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,166
Political Trust	<---	Policy Satisfaction	0,214
State Legitimacy	<---	Political Trust	0,087
Attitude towards Violence	<---	Policy Satisfaction	0,024
Attitude towards Violence	<---	Political Trust	-0,09
Attitude towards Violence	<---	State Legitimacy	-0,053
Attitude towards Violence	<---	Lived Food Scarcity	-0,037
Use of Violence	<---	Lived Food Scarcity	0,118
Use of Violence	<---	State Legitimacy	-0,021
Use of Violence	<---	Policy Satisfaction	0,093
Use of Violence	<---	Age	-0,001
Use of Violence	<---	Attitude towards Violence	0,086

Table 3.3.3: Standardized Regression Weights for Figure 3.9

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,1
Political Trust	<---	Policy Satisfaction	0,167
State Legitimacy	<---	Political Trust	0,164
Attitude towards Violence	<---	Policy Satisfaction	0,114
Attitude towards Violence	<---	Political Trust	-0,024
Attitude towards Violence	<---	State Legitimacy	-0,1
Attitude towards Violence	<---	Lived Food Scarcity	0
Use of Violence	<---	Lived Food Scarcity	0,11
Use of Violence	<---	State Legitimacy	-0,153
Use of Violence	<---	Policy Satisfaction	0,227
Use of Violence	<---	Age	-0,062
Use of Violence	<---	Use of Violence	0,087

Table 3.3.4: Squared Multiple Correlations for Figure 3.8

	Estimate
Policy Satisfaction	0,01
Political Trust	0,028
State Legitimacy	0,027
Attitude towards Violence	0,023
Use of Violence	0,098

Table 3.3.5: Squared Multiple Correlations for Figure 3.7

	Estimate
Policy Satisfaction	0,028
Political Trust	0,046
State Legitimacy	0,007
Attitude towards Violence	0,013
Use of Violence	0,026

Table 3.3.6: Comparison of Unstandardized Regression Weights for Figures 3.10 and 3.11

			Dual		Multi		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,143	0	-0,043	0,009	3,593***
Political Trust	<---	Policy Satisfaction	0,144	0	0,279	0	2,587***
State Legitimacy	<---	Political Trust	0,074	0,078	0,216	0	2,663***
Attitude towards Violence	<---	Policy Satisfaction	0,177	0	0,071	0,082	-1,785*
Attitude towards Violence	<---	Political Trust	-0,061	0,08	-0,054	0,084	0,151
Attitude towards Violence	<---	State Legitimacy	-0,072	0,009	-0,067	0,005	0,148
Attitude towards Violence	<---	Lived Food Scarcity	0,007	0,802	0,006	0,805	-0,023
Use of Violence	<---	Lived Food Scarcity	0,114	0	0,018	0,036	-3,377***
Use of Violence	<---	State Legitimacy	-0,159	0	0,001	0,857	5,922***
Use of Violence	<---	Policy Satisfaction	0,365	0	0,045	0	-7,555***
Use of Violence	<---	Age	-0,035	0,152	-0,011	0,184	0,926
Use of Violence	<---	Attitude towards Violence	0,134	0	0,032	0	-3,129***

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.3.7: Standardized Regression Weights for Figure 3.10

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,21
Political Trust	<---	Policy Satisfaction	0,12
State Legitimacy	<---	Political Trust	0,059
Attitude towards Violence	<---	Policy Satisfaction	0,141
Attitude towards Violence	<---	Political Trust	-0,059
Attitude towards Violence	<---	State Legitimacy	-0,087
Attitude towards Violence	<---	Lived Food Scarcity	0,009
Use of Violence	<---	Lived Food Scarcity	0,133
Use of Violence	<---	State Legitimacy	-0,191
Use of Violence	<---	Policy Satisfaction	0,29
Use of Violence	<---	Age	-0,044
Use of Violence	<---	Attitude towards Violence	0,133

Table 3.3.8: Standardized Regression Weights for Figure 3.11

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,067
Political Trust	<---	Policy Satisfaction	0,211
State Legitimacy	<---	Political Trust	0,17
Attitude towards Violence	<---	Policy Satisfaction	0,046
Attitude towards Violence	<---	Political Trust	-0,046
Attitude towards Violence	<---	State Legitimacy	-0,072
Attitude towards Violence	<---	Lived Food Scarcity	0,006
Use of Violence	<---	Lived Food Scarcity	0,053
Use of Violence	<---	State Legitimacy	0,005
Use of Violence	<---	Policy Satisfaction	0,086
Use of Violence	<---	Age	-0,034
Use of Violence	<---	Attitude towards Violence	0,096

Table 3.3.9: Squared Multiple Correlations for Figure 3.10

	Estimate
Policy Satisfaction	0,044
Political Trust	0,014
State Legitimacy	0,004
Attitude towards Violence	0,029
Use of Violence	0,155

Table 3.3.10: Squared Multiple Correlations for Figure 3.11

	Estimate
Policy Satisfaction	0,004
Political Trust	0,044
State Legitimacy	0,029
Attitude towards Violence	0,009
Use of Violence	0,021

Table 3.3.11: Comparison of Unstandardized Regression Weights for Figures 3.12 and 3.13

			Largest		Non Largest		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,069	0	-0,097	0	-1,074
Political Trust	<---	Policy Satisfaction	0,2	0	0,269	0	1,278
State Legitimacy	<---	Political Trust	0,128	0	0,229	0	1,947*
Attitude towards Violence	<---	Policy Satisfaction	0,131	0,001	0,105	0,024	-0,412
Attitude towards Violence	<---	Political Trust	-0,07	0,038	-0,057	0,094	0,258
Attitude towards Violence	<---	State Legitimacy	-0,079	0,002	-0,069	0,012	0,275
Attitude towards Violence	<---	Lived Food Scarcity	-0,036	0,191	0,01	0,712	1,198
Use of Violence	<---	Lived Food Scarcity	0,079	0	0,058	0	-0,915
Use of Violence	<---	State Legitimacy	-0,056	0	-0,066	0	-0,438
Use of Violence	<---	Policy Satisfaction	0,174	0	0,144	0	-0,854
Use of Violence	<---	Age	-0,035	0,022	-0,008	0,623	1,227
Use of Violence	<---	Attitude towards Violence	0,042	0,009	0,07	0	1,173

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.3.12: Standardized Regression Weights for Figure 3.12

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,101
Political Trust	<---	Policy Satisfaction	0,164
State Legitimacy	<---	Political Trust	0,098
Attitude towards Violence	<---	Policy Satisfaction	0,088
Attitude towards Violence	<---	Political Trust	-0,057
Attitude towards Violence	<---	State Legitimacy	-0,085
Attitude towards Violence	<---	Lived Food Scarcity	-0,035
Use of Violence	<---	Lived Food Scarcity	0,128
Use of Violence	<---	State Legitimacy	-0,101
Use of Violence	<---	Policy Satisfaction	0,194
Use of Violence	<---	Age	-0,06
Use of Violence	<---	Attitude towards Violence	0,069

Table 3.3.13: Standardized Regression Weights for Figure 3.13

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,166
Political Trust	<---	Policy Satisfaction	0,197
State Legitimacy	<---	Political Trust	0,187
Attitude towards Violence	<---	Policy Satisfaction	0,073
Attitude towards Violence	<---	Political Trust	-0,054
Attitude towards Violence	<---	State Legitimacy	-0,079
Attitude towards Violence	<---	Lived Food Scarcity	0,012
Use of Violence	<---	Lived Food Scarcity	0,117
Use of Violence	<---	State Legitimacy	-0,128
Use of Violence	<---	Policy Satisfaction	0,167
Use of Violence	<---	Age	-0,015
Use of Violence	<---	Attitude towards Violence	0,118

Table 3.3.14: Squared Multiple Correlations for Figure 3.12

	Estimate
Policy Satisfaction	0,01
Political Trust	0,027
State Legitimacy	0,01
Attitude towards Violence	0,019
Use of Violence	0,07

Table 3.3.15: Squared Multiple Correlations for Figure 3.13

	Estimate
Policy Satisfaction	0,028
Political Trust	0,039
State Legitimacy	0,035
Attitude towards Violence	0,014
Use of Violence	0,069

Table 3.3.16: Comparison of Unstandardized Regression Weights for Figures 3.14 and 3.15

			Shared		Different		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,075	0,005	-0,095	0	-0,653
Political Trust	<---	Policy Satisfaction	0,44	0	0,184	0	-3,854***
State Legitimacy	<---	Political Trust	0,169	0,01	0,172	0	0,053
Attitude towards Violence	<---	Policy Satisfaction	-0,036	0,681	0,16	0	2,094**
Attitude towards Violence	<---	Political Trust	-0,088	0,165	-0,049	0,052	0,57
Attitude towards Violence	<---	State Legitimacy	-0,015	0,717	-0,079	0	-1,369
Attitude towards Violence	<---	Lived Food Scarcity	0,067	0,174	-0,019	0,354	-1,614
Use of Violence	<---	Lived Food Scarcity	0,014	0,277	0,079	0	3,472***
Use of Violence	<---	State Legitimacy	0,001	0,945	-0,087	0	-5,028***
Use of Violence	<---	Policy Satisfaction	0,021	0,326	0,181	0	5,303***
Use of Violence	<---	Age	-0,01	0,461	-0,022	0,104	-0,63
Use of Violence	<---	Attitude towards Violence	0,016	0,161	0,068	0	2,688***

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.3.17: Standardized Regression Weights for Figure 3.14

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,127
Political Trust	<---	Policy Satisfaction	0,318
State Legitimacy	<---	Political Trust	0,116
Attitude towards Violence	<---	Policy Satisfaction	-0,02
Attitude towards Violence	<---	Political Trust	-0,067
Attitude towards Violence	<---	State Legitimacy	-0,017
Attitude towards Violence	<---	Lived Food Scarcity	0,062
Use of Violence	<---	Lived Food Scarcity	0,05
Use of Violence	<---	State Legitimacy	0,003
Use of Violence	<---	Policy Satisfaction	0,045
Use of Violence	<---	Age	-0,033
Use of Violence	<---	Attitude towards Violence	0,064

Table 3.3.18: Standardized Regression Weights for Figure 3.15

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,144
Political Trust	<---	Policy Satisfaction	0,145
State Legitimacy	<---	Political Trust	0,143
Attitude towards Violence	<---	Policy Satisfaction	0,116
Attitude towards Violence	<---	Political Trust	-0,045
Attitude towards Violence	<---	State Legitimacy	-0,087
Attitude towards Violence	<---	Lived Food Scarcity	-0,021
Use of Violence	<---	Lived Food Scarcity	0,127
Use of Violence	<---	State Legitimacy	-0,14
Use of Violence	<---	Policy Satisfaction	0,192
Use of Violence	<---	Age	-0,036
Use of Violence	<---	Attitude towards Violence	0,1

Table 3.3.19: Squared Multiple Correlations for Figure 3.14

	Estimate
Policy Satisfaction	0,016
Political Trust	0,101
State Legitimacy	0,013
Attitude towards Violence	0,011
Use of Violence	0,009

Table 3.3.20: Squared Multiple Correlations for Figure 3.15

	Estimate
Policy Satisfaction	0,021
Political Trust	0,021
State Legitimacy	0,021
Attitude towards Violence	0,023
Use of Violence	0,081

Chapter 3.4

Table 3.4.1: Comparison of Unstandardized Regression Weights for Figures 3.17 and 3.18

			Urban		Rural		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,105	0	-0,065	0	1,472
Political Trust	<---	Policy Satisfaction	0,275	0	0,21	0	-1,231
State Legitimacy	<---	Political Trust	0,109	0,009	0,211	0	1,922*
Attitude towards Violence	<---	Policy Satisfaction	0,046	0,369	0,163	0	1,858*
Attitude towards Violence	<---	Political Trust	-0,104	0,009	-0,028	0,36	1,54
Attitude towards Violence	<---	State Legitimacy	-0,05	0,106	-0,088	0	-0,998
Use of Violence	<---	Lived Food Scarcity	0,054	0	0,068	0	0,622
Use of Violence	<---	State Legitimacy	-0,01	0,506	-0,087	0	-3,731***
Use of Violence	<---	Policy Satisfaction	0,069	0,005	0,219	0	4,422***
Use of Violence	<---	Attitude towards Violence	0,042	0,009	0,056	0	0,631
Use of Violence	<---	Age	0	0,982	-0,038	0,009	-1,812*
Use of Violence	<---	POLICE STATION	0,021	0,45	-0,073	0,025	-2,187**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.4.2: Standardized Regression Weights for Figure 3.17

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,166
Political Trust	<---	Policy Satisfaction	0,214
State Legitimacy	<---	Political Trust	0,087
Attitude towards Violence	<---	Policy Satisfaction	0,03
Attitude towards Violence	<---	Political Trust	-0,089
Attitude towards Violence	<---	State Legitimacy	-0,053
Use of Violence	<---	Lived Food Scarcity	0,116
Use of Violence	<---	State Legitimacy	-0,022
Use of Violence	<---	Policy Satisfaction	0,093
Use of Violence	<---	Attitude towards Violence	0,085
Use of Violence	<---	Age	0,001
Use of Violence	<---	Police Station	0,025

Table 3.4.3: Standardized Regression Weights for Figure 3.18

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,1
Political Trust	<---	Policy Satisfaction	0,167
State Legitimacy	<---	Political Trust	0,164
Attitude towards Violence	<---	Policy Satisfaction	0,114
Attitude towards Violence	<---	Political Trust	-0,024
Attitude towards Violence	<---	State Legitimacy	-0,1
Use of Violence	<---	Lived Food Scarcity	0,11
Use of Violence	<---	State Legitimacy	-0,15
Use of Violence	<---	Policy Satisfaction	0,233
Use of Violence	<---	Attitude towards Violence	0,085
Use of Violence	<---	Age	-0,064
Use of Violence	<---	Police Station	-0,055

Table 3.4.4: Squared Multiple Correlations for Figure 3.17

	Estimate
Policy Satisfaction	0,028
Political Trust	0,046
State Legitimacy	0,007
Attitude towards Violence	0,011
Use of Violence	0,027

Table 3.4.5: Squared Multiple Correlations for Figure 3.18

	Estimate
Policy Satisfaction	0,01
Political Trust	0,028
State Legitimacy	0,027
Attitude towards Violence	0,023
Use of Violence	0,103

Table 3.4.6: Comparison of Unstandardized Regression Weights for Revised Model including Police Personnel as control on use of violence

			Urban		Rural		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,105	0	-0,065	0	1,472
Political Trust	<---	Policy Satisfaction	0,275	0	0,21	0	-1,231
State Legitimacy	<---	Political Trust	0,109	0,009	0,211	0	1,922*
Attitude towards Violence	<---	Policy Satisfaction	0,046	0,369	0,163	0	1,858*
Attitude towards Violence	<---	Political Trust	-0,104	0,009	-0,028	0,36	1,54
Attitude towards Violence	<---	State Legitimacy	-0,05	0,106	-0,088	0	-0,998
Use of Violence	<---	Lived Food Scarcity	0,054	0	0,071	0	0,801
Use of Violence	<---	State Legitimacy	-0,011	0,481	-0,088	0	-3,743***
Use of Violence	<---	Policy Satisfaction	0,07	0,004	0,219	0	4,419***
Use of Violence	<---	Attitude towards Violence	0,042	0,009	0,057	0	0,644
Use of Violence	<---	Age	0,001	0,959	-0,037	0,012	-1,779*
Use of Violence	<---	POLICE PERSONNEL	0,044	0,11	-0,067	0,046	-2,559**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.4.7: Standardized Regression Weights for Revised Model including Police Personnel as control on use of violence (Urban Areas)

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,166
Political Trust	<---	Policy Satisfaction	0,214
State Legitimacy	<---	Political Trust	0,087
Attitude towards Violence	<---	Policy Satisfaction	0,03
Attitude towards Violence	<---	Political Trust	-0,089
Attitude towards Violence	<---	State Legitimacy	-0,053
Use of Violence	<---	Lived Food Scarcity	0,115
Use of Violence	<---	State Legitimacy	-0,023
Use of Violence	<---	Policy Satisfaction	0,094
Use of Violence	<---	Attitude towards Violence	0,086
Use of Violence	<---	Age	0,002
Use of Violence	<---	Police Personnel	0,052

Table 3.4.8: Standardized Regression Weights for Revised Model including Police Personnel as control on use of violence (Rural Areas)

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,1
Political Trust	<---	Policy Satisfaction	0,167
State Legitimacy	<---	Political Trust	0,164
Attitude towards Violence	<---	Policy Satisfaction	0,114
Attitude towards Violence	<---	Political Trust	-0,024
Attitude towards Violence	<---	State Legitimacy	-0,1
Use of Violence	<---	Lived Food Scarcity	0,115
Use of Violence	<---	State Legitimacy	-0,151
Use of Violence	<---	Policy Satisfaction	0,233
Use of Violence	<---	Attitude towards Violence	0,086
Use of Violence	<---	Age	-0,062
Use of Violence	<---	Police Personnel	-0,049

Table 3.4.9: Squared Multiple Correlations for Revised Model including Police Personnel as control on use of violence (Urban Areas)

	Estimate
Policy Satisfaction	0,028
Political Trust	0,046
State Legitimacy	0,007
Attitude towards Violence	0,011
Use of Violence	0,029

Table 3.4.10: Squared Multiple Correlations for Revised Model including Police Personnel as control on use of violence (Rural Areas)

	Estimate
Policy Satisfaction	0,01
Political Trust	0,028
State Legitimacy	0,027
Attitude towards Violence	0,023
Use of Violence	0,104

Table 3.4.11: Comparison of Unstandardized Regression Weights for Figures 3.19 and 3.20

			Urban		Rural		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,103	0	-0,065	0	1,43
Policy Satisfaction	<---	Trust Members of other Communities	0,09	0	0,089	0	-0,032
Political Trust	<---	Policy Satisfaction	0,239	0	0,165	0	-1,433
Political Trust	<---	Trust Members of other Communities	0,185	0	0,23	0	1,276
State Legitimacy	<---	Political Trust	0,109	0,009	0,211	0	1,922*
Attitude towards Violence	<---	Policy Satisfaction	0,051	0,315	0,17	0	1,881*
Attitude towards Violence	<---	Political Trust	-0,094	0,02	-0,011	0,733	1,629
Attitude towards Violence	<---	State Legitimacy	-0,049	0,108	-0,083	0	-0,873
Attitude towards Violence	<---	Trust Members of other Communities	-0,043	0,222	-0,056	0,031	-0,294
Use of Violence	<---	Lived Food Scarcity	0,054	0	0,064	0	0,44
Use of Violence	<---	State Legitimacy	-0,01	0,506	-0,088	0	-3,77***
Use of Violence	<---	Policy Satisfaction	0,069	0,005	0,221	0	4,461***
Use of Violence	<---	Attitude towards Violence	0,042	0,009	0,057	0	0,686
Use of Violence	<---	POLICE STATION	0,021	0,451	-0,07	0,034	-2,094**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.4.12: Standardized Regression Weights for Figures 3.19

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,163
Policy Satisfaction	<---	Trust Members of other Communities	0,13
Political Trust	<---	Policy Satisfaction	0,186
Political Trust	<---	Trust Members of other Communities	0,207
State Legitimacy	<---	Political Trust	0,086
Attitude towards Violence	<---	Policy Satisfaction	0,034
Attitude towards Violence	<---	Political Trust	-0,08
Attitude towards Violence	<---	State Legitimacy	-0,053
Attitude towards Violence	<---	Trust Members of other Communities	-0,041
Use of Violence	<---	Lived Food Scarcity	0,116
Use of Violence	<---	State Legitimacy	-0,022
Use of Violence	<---	Policy Satisfaction	0,093
Use of Violence	<---	Attitude towards Violence	0,085
Use of Violence	<---	POLICE STATION	0,025

Table 3.4.13: Standardized Regression Weights for Figure 3.20

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,099
Policy Satisfaction	<---	Trust Members of other Communities	0,132
Political Trust	<---	Policy Satisfaction	0,131
Political Trust	<---	Trust Members of other Communities	0,27
State Legitimacy	<---	Political Trust	0,164
Attitude towards Violence	<---	Policy Satisfaction	0,119
Attitude towards Violence	<---	Political Trust	-0,009
Attitude towards Violence	<---	State Legitimacy	-0,094
Attitude towards Violence	<---	Trust Members of other Communities	-0,058
Use of Violence	<---	Lived Food Scarcity	0,103
Use of Violence	<---	State Legitimacy	-0,152
Use of Violence	<---	Policy Satisfaction	0,235
Use of Violence	<---	Attitude towards Violence	0,087
Use of Violence	<---	POLICE STATION	-0,052

Table 3.4.14: Squared Multiple Correlations for Figure 3.19

	Estimate
Policy Satisfaction	0,043
Political Trust	0,087
State Legitimacy	0,007
Attitude towards Violence	0,013
Use of Violence	0,027

Table 3.4.15: Squared Multiple Correlations for Figure 3.20

	Estimate
Policy Satisfaction	0,027
Political Trust	0,1
State Legitimacy	0,027
Attitude towards Violence	0,025
Use of Violence	0,099

Table 3.4.16: Comparison of Unstandardized Regression Weights for Figures 3.22 and 3.23

			Dual		Multi		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,143	0	-0,043	0,009	3,593***
Perceived Fairness of Leaders	<---	Lived Food Scarcity	-0,138	0,001	0,004	0,905	2,673***
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,339	0	-0,179	0	2,017**
Political Trust	<---	Policy Satisfaction	0,134	0,001	0,283	0	2,834***
Political Trust	<---	Perceived Fairness of Leaders	-0,035	0,109	0,021	0,234	1,995**
State Legitimacy	<---	Political Trust	0,074	0,078	0,216	0	2,663***
Attitude towards Violence	<---	Policy Satisfaction	0,15	0	0,066	0,108	-1,431
Attitude towards Violence	<---	Political Trust	-0,069	0,045	-0,053	0,089	0,349
Attitude towards Violence	<---	State Legitimacy	-0,062	0,023	-0,065	0,007	-0,071
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,094	0	-0,024	0,257	2,286**
Use of Violence	<---	Lived Food Scarcity	0,092	0	0,016	0,056	-2,695***
Use of Violence	<---	State Legitimacy	-0,15	0	0,002	0,825	5,701***
Use of Violence	<---	Policy Satisfaction	0,327	0	0,044	0	-6,702***
Use of Violence	<---	Attitude towards Violence	0,114	0	0,032	0	-2,516**
Use of Violence	<---	Perceived Fairness of Leaders	-0,131	0	-0,004	0,551	5,646***

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.4.17: Standardized Regression Weights for Figure 3.22

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,21
Perceived Fairness of Leaders	<---	Lived Food Scarcity	-0,11
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,184
Political Trust	<---	Policy Satisfaction	0,111
Political Trust	<---	Perceived Fairness of Leaders	-0,054
State Legitimacy	<---	Political Trust	0,059
Attitude towards Violence	<---	Policy Satisfaction	0,12
Attitude towards Violence	<---	Political Trust	-0,067
Attitude towards Violence	<---	State Legitimacy	-0,075
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,138
Use of Violence	<---	Lived Food Scarcity	0,107
Use of Violence	<---	State Legitimacy	-0,18
Use of Violence	<---	Policy Satisfaction	0,26
Use of Violence	<---	Attitude towards Violence	0,113
Use of Violence	<---	Perceived Fairness of Leaders	-0,192

Table 3.4.18: Standardized Regression Weights for Figure 3.23

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,067
Perceived Fairness of Leaders	<---	Lived Food Scarcity	0,003
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,093
Political Trust	<---	Policy Satisfaction	0,214
Political Trust	<---	Perceived Fairness of Leaders	0,03
State Legitimacy	<---	Political Trust	0,17
Attitude towards Violence	<---	Policy Satisfaction	0,042
Attitude towards Violence	<---	Political Trust	-0,045
Attitude towards Violence	<---	State Legitimacy	-0,07
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,029
Use of Violence	<---	Lived Food Scarcity	0,049
Use of Violence	<---	State Legitimacy	0,006
Use of Violence	<---	Policy Satisfaction	0,085
Use of Violence	<---	Attitude towards Violence	0,097
Use of Violence	<---	Perceived Fairness of Leaders	-0,015

Table 3.4.19: Squared Multiple Correlations for Figure 3.22

	Estimate
Policy Satisfaction	0,044
Perceived Fairness of Leaders	0,038
Political Trust	0,017
State Legitimacy	0,004
Attitude towards Violence	0,046
Use of Violence	0,185

Table 3.4.20: Squared Multiple Correlations for Figure 3.23

	Estimate
Policy Satisfaction	0,004
Perceived Fairness of Leaders	0,009
Political Trust	0,045
State Legitimacy	0,029
Attitude towards Violence	0,01
Use of Violence	0,019

Table 3.4.21: Comparison of Unstandardized Regression Weights for Figures 3.25 and 3.26

			Dual		Single/ Multi		
			Estimate	P	Estimate	P	z-score
Relative Satisfaction	<---	Lived Food Scarcity	-0,414	0	-0,335	0	1,77*
Policy Satisfaction	<---	Lived Food Scarcity	-0,118	0	-0,031	0,074	2,953***
Policy Satisfaction	<---	Relative Satisfaction	0,059	0,004	0,035	0,031	-0,913
Perceived Fairness of Leaders	<---	Lived Food Scarcity	-0,154	0	0,006	0,855	2,862***
Perceived Fairness of Leaders	<---	Relative Satisfaction	-0,042	0,276	0,007	0,823	0,984
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,332	0	-0,179	0	1,921*
Political Trust	<---	Policy Satisfaction	0,134	0,001	0,283	0	2,834***
Political Trust	<---	Perceived Fairness of Leaders	-0,035	0,109	0,021	0,234	1,995**
State Legitimacy	<---	Political Trust	0,085	0,044	0,215	0	2,461**
State Legitimacy	<---	Perceived Fairness of Leaders	0,094	0	0,054	0,014	-1,138
Attitude towards Violence	<---	Policy Satisfaction	0,143	0	0,063	0,127	-1,369
Attitude towards Violence	<---	Political Trust	-0,068	0,049	-0,053	0,09	0,323
Attitude towards Violence	<---	State Legitimacy	-0,063	0,022	-0,065	0,007	-0,064
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,094	0	-0,024	0,256	2,273**
Attitude towards Violence	<---	Relative Satisfaction	0,021	0,383	0,026	0,278	0,141
Use of Violence	<---	Lived Food Scarcity	0,09	0,002	0,016	0,078	-2,498**
Use of Violence	<---	State Legitimacy	-0,15	0	0,002	0,82	5,672***
Use of Violence	<---	Policy Satisfaction	0,327	0	0,044	0	-6,692***
Use of Violence	<---	Attitude towards Violence	0,114	0	0,032	0	-2,518**
Use of Violence	<---	Perceived Fairness of Leaders	-0,131	0	-0,004	0,552	5,618***
Use of Violence	<---	Relative Satisfaction	-0,004	0,863	-0,001	0,873	0,11

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.4.22: Standardized Regression Weights for Figure 3.25

			Estimate
Relative Satisfaction	<---	Lived Food Scarcity	-0,358
Policy Satisfaction	<---	Lived Food Scarcity	-0,174
Policy Satisfaction	<---	Relative Satisfaction	0,101
Perceived Fairness of Leaders	<---	Lived Food Scarcity	-0,123
Perceived Fairness of Leaders	<---	Relative Satisfaction	-0,039
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,181
Political Trust	<---	Policy Satisfaction	0,111
Political Trust	<---	Perceived Fairness of Leaders	-0,054
State Legitimacy	<---	Political Trust	0,068
State Legitimacy	<---	Perceived Fairness of Leaders	0,114
Attitude towards Violence	<---	Policy Satisfaction	0,115
Attitude towards Violence	<---	Political Trust	-0,066
Attitude towards Violence	<---	State Legitimacy	-0,076
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,138

Attitude towards Violence	<---	Relative Satisfaction	0,029
Use of Violence	<---	Lived Food Scarcity	0,105
Use of Violence	<---	State Legitimacy	-0,179
Use of Violence	<---	Policy Satisfaction	0,259
Use of Violence	<---	Attitude towards Violence	0,113
Use of Violence	<---	Perceived Fairness of Leaders	-0,191
Use of Violence	<---	Relative Satisfaction	-0,006

Table 3.4.23: Standardized Regression Weights for Figure 3.26

			Estimate
Relative Satisfaction	<---	Lived Food Scarcity	-0,316
Policy Satisfaction	<---	Lived Food Scarcity	-0,048
Policy Satisfaction	<---	Relative Satisfaction	0,058
Perceived Fairness of Leaders	<---	Lived Food Scarcity	0,005
Perceived Fairness of Leaders	<---	Relative Satisfaction	0,006
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,093
Political Trust	<---	Policy Satisfaction	0,214
Political Trust	<---	Perceived Fairness of Leaders	0,03
State Legitimacy	<---	Political Trust	0,169
State Legitimacy	<---	Perceived Fairness of Leaders	0,062
Attitude towards Violence	<---	Policy Satisfaction	0,04
Attitude towards Violence	<---	Political Trust	-0,045
Attitude towards Violence	<---	State Legitimacy	-0,07
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,029
Attitude towards Violence	<---	Relative Satisfaction	0,028
Use of Violence	<---	Lived Food Scarcity	0,047
Use of Violence	<---	State Legitimacy	0,006
Use of Violence	<---	Policy Satisfaction	0,085
Use of Violence	<---	Attitude towards Violence	0,097
Use of Violence	<---	Perceived Fairness of Leaders	-0,015
Use of Violence	<---	Relative Satisfaction	-0,004

Table 3.4.24: Squared Multiple Correlations for Figure 3.25

	Estimate
Relative Satisfaction	0,128
Policy Satisfaction	0,053
Perceived Fairness of Leaders	0,039
Political Trust	0,017
State Legitimacy	0,017

Attitude towards Violence	0,049
Use of Violence	0,193

Table 3.4.25: Squared Multiple Correlations for Figure 3.26

	Estimate
Relative Satisfaction	0,1
Policy Satisfaction	0,007
Perceived Fairness of Leaders	0,009
Political Trust	0,045
State Legitimacy	0,033
Attitude towards Violence	0,011
Use of Violence	0,019

Table 3.4.26: Comparison of Unstandardized Regression Weights for Figures 3.28 and 3.29

			Eastern		Dual		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,183	0	-0,16	0	0,47
Political Trust	<---	Policy Satisfaction	0,037	0,417	0,226	0	2,391**
State Legitimacy	<---	Political Trust	0,181	0,048	0,096	0,024	-0,846
Attitude towards Violence	<---	Policy Satisfaction	0,171	0,005	0,169	0,004	-0,02
Attitude towards Violence	<---	Political Trust	-0,063	0,363	-0,076	0,06	-0,157
Attitude towards Violence	<---	State Legitimacy	-0,058	0,145	-0,063	0,125	-0,084
Use of Violence	<---	Lived Food Scarcity	0,147	0,008	0,031	0,218	-1,887*
Use of Violence	<---	State Legitimacy	-0,221	0	-0,037	0,179	3,496***
Use of Violence	<---	Policy Satisfaction	0,512	0	0,143	0	-4,508***
Use of Violence	<---	Attitude towards Violence	0,245	0	0,033	0,272	-3,194***

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.4.27: Standardized Regression Weights for Figure 3.28

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,23
Political Trust	<---	Policy Satisfaction	0,043
State Legitimacy	<---	Political Trust	0,104
Attitude towards Violence	<---	Policy Satisfaction	0,147
Attitude towards Violence	<---	Political Trust	-0,048
Attitude towards Violence	<---	State Legitimacy	-0,076
Use of Violence	<---	Lived Food Scarcity	0,125
Use of Violence	<---	State Legitimacy	-0,229

Use of Violence	<---	Policy Satisfaction	0,347
Use of Violence	<---	Attitude towards Violence	0,193

Table 3.4.28: Standardized Regression Weights for Figure 3.29

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,257
Political Trust	<---	Policy Satisfaction	0,154
State Legitimacy	<---	Political Trust	0,098
Attitude towards Violence	<---	Policy Satisfaction	0,126
Attitude towards Violence	<---	Political Trust	-0,083
Attitude towards Violence	<---	State Legitimacy	-0,067
Use of Violence	<---	Lived Food Scarcity	0,055
Use of Violence	<---	State Legitimacy	-0,058
Use of Violence	<---	Policy Satisfaction	0,157
Use of Violence	<---	Attitude towards Violence	0,048

Table 3.4.29: Squared Multiple Correlations for Figure 3.28

	Estimate
Policy Satisfaction	0,053
Political Trust	0,002
State Legitimacy	0,011
Attitude towards Violence	0,03
Use of Violence	0,23

Table 3.4.30: Squared Multiple Correlations for Figure 3.29

	Estimate
Policy Satisfaction	0,066
Political Trust	0,024
State Legitimacy	0,01
Attitude towards Violence	0,025
Use of Violence	0,031

Table 3.4.31: Comparison of Unstandardized Regression Weights for Figures 3.30 and 3.31

			Eastern Rural		Eastern Urban		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,216	0,000	-0,112	0,097	1,210
Political Trust	<---	Policy Satisfaction	-0,008	0,874	0,208	0,051	1,831*
State Legitimacy	<---	Political Trust	0,197	0,082	0,170	0,258	-0,146
Attitude towards Violence	<---	Policy Satisfaction	0,243	0,000	-0,025	0,861	-1,688*
Attitude towards Violence	<---	Political Trust	0,028	0,724	-0,232	0,105	-1,592
Attitude towards Violence	<---	State Legitimacy	-0,070	0,095	0,010	0,922	0,743
Use of Violence	<---	State Legitimacy	-0,235	0,000	-0,085	0,298	1,561
Use of Violence	<---	Policy Satisfaction	0,622	0,000	0,098	0,414	-3,59***
Use of Violence	<---	Attitude towards Violence	0,289	0,000	0,084	0,334	-1,792*
Use of Violence	<---	Lived Food Scarcity	0,070	0,341	0,190	0,013	1,130

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.4.32: Standardized Regression Weights for Figure 3.30

			Estimate	S.E.	C.R.	P
Policy Satisfaction	<---	Lived Food Scarcity	-0,216	0,054	-4,024	***
Political Trust	<---	Policy Satisfaction	-0,008	0,051	-0,159	0,874
State Legitimacy	<---	Political Trust	0,197	0,113	1,74	0,082
Attitude towards Violence	<---	Policy Satisfaction	0,243	0,065	3,732	***
Attitude towards Violence	<---	Political Trust	0,028	0,079	0,353	0,724
Attitude towards Violence	<---	State Legitimacy	-0,07	0,042	-1,672	0,095
Use of Violence	<---	State Legitimacy	-0,235	0,051	-4,611	***
Use of Violence	<---	Policy Satisfaction	0,622	0,083	7,463	***
Use of Violence	<---	Attitude towards Violence	0,289	0,074	3,92	***
Use of Violence	<---	Lived Food Scarcity	0,07	0,074	0,952	0,341

Table 3.4.33: Standardized Regression Weights for Figure 3.31

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,175
Political Trust	<---	Policy Satisfaction	0,204
State Legitimacy	<---	Political Trust	0,12
Attitude towards Violence	<---	Policy Satisfaction	-0,019
Attitude towards Violence	<---	Political Trust	-0,176
Attitude towards Violence	<---	State Legitimacy	0,01
Use of Violence	<---	State Legitimacy	-0,106
Use of Violence	<---	Policy Satisfaction	0,085

Use of Violence	<---	Attitude towards Violence	0,099
Use of Violence	<---	Lived Food Scarcity	0,258

Table 3.4.34: Squared Multiple Correlations for Figure 3.30

	Estimate
Policy Satisfaction	0,056
Political Trust	0
State Legitimacy	0,011
Attitude towards Violence	0,058
Use of Violence	0,297

Table 3.4.35: Squared Multiple Correlations for Figure 3.31

	Estimate
Policy Satisfaction	0,031
Political Trust	0,042
State Legitimacy	0,014
Attitude towards Violence	0,032
Use of Violence	0,087

Table 3.4.36: Unstandardized Regression Weights for Figure 3.33

			Estimate	S.E.	C.R.	P
Policy Satisfaction	<---	Lived Food Scarcity	-0,216	0,054	-4,028	***
Political Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,432	0,105	-4,132	***
Attitude towards Violence	<---	Policy Satisfaction	0,206	0,066	3,108	0,002
Attitude towards Violence	<---	Political Perceived Fairness of Leaders	-0,134	0,038	-3,497	***
State Legitimacy	<---	Policy Satisfaction	-0,292	0,093	-3,15	0,002
Use of Violence	<---	State Legitimacy	-0,226	0,05	-4,496	***
Use of Violence	<---	Policy Satisfaction	0,539	0,082	6,554	***
Use of Violence	<---	Attitude towards Violence	0,239	0,073	3,272	0,001
Use of Violence	<---	Political Perceived Fairness of Leaders	-0,187	0,047	-3,95	***

Table 3.4.37: Standardized Regression Weights for Figure 3.33

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,238
Political Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,247
Attitude towards Violence	<---	Policy Satisfaction	0,185
Attitude towards Violence	<---	Political Perceived Fairness of Leaders	-0,212
State Legitimacy	<---	Policy Satisfaction	-0,188
Use of Violence	<---	State Legitimacy	-0,224

Use of Violence	<---	Policy Satisfaction	0,342
Use of Violence	<---	Attitude towards Violence	0,168
Use of Violence	<---	Political Perceived Fairness of Leaders	-0,207

Table 3.4.38: Squared Multiple Correlations for Figure 3.33

	Estimate
Policy Satisfaction	0,056
Political Perceived Fairness of Leaders	0,061
Attitude towards Violence	0,099
State Legitimacy	0,035
Use of Violence	0,355

Table 3.4.39: Unstandardized Regression Weights for Figure 3.36

			Estimate	S.E.	C.R.	P
Policy Satisfaction	<---	Lived Food Scarcity	-0,216	0,054	-4,028	***
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,43	0,101	-4,251	***
Attitude towards Violence	<---	Policy Satisfaction	0,214	0,065	3,291	***
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,133	0,038	-3,525	***
State Legitimacy	<---	Policy Satisfaction	-0,292	0,093	-3,15	0,002
Attitude towards Violence	<---	PARTISANSHIP (ODM)	0,312	0,105	2,957	0,003
Use of Violence	<---	State Legitimacy	-0,227	0,05	-4,531	***
Use of Violence	<---	Policy Satisfaction	0,553	0,084	6,562	***
Use of Violence	<---	Attitude towards Violence	0,228	0,076	3	0,003
Use of Violence	<---	Perceived Fairness of Leaders	-0,193	0,047	-4,091	***
Use of Violence	<---	PARTISANSHIP (ODM)	0,011	0,136	0,081	0,936
Use of Violence	<---	Lived Food Scarcity	0,052	0,072	0,729	0,466

Table 3.4.40: Standardized Regression Weights for Figure 3.36

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,238
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,25
Attitude towards Violence	<---	Policy Satisfaction	0,193
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,207
State Legitimacy	<---	Policy Satisfaction	-0,188
Attitude towards Violence	<---	PARTISANSHIP (ODM)	0,213

Use of Violence	<---	State Legitimacy	-0,225
Use of Violence	<---	Policy Satisfaction	0,351
Use of Violence	<---	Attitude towards Violence	0,161
Use of Violence	<---	Perceived Fairness of Leaders	-0,211
Use of Violence	<---	PARTISANSHIP (ODM)	0,005
Use of Violence	<---	Lived Food Scarcity	0,037

Table 3.4.41: Squared Multiple Correlations for Figure 3.36

	Estimate
Policy Satisfaction	0,056
Perceived Fairness of Leaders	0,063
Attitude towards Violence	0,145
State Legitimacy	0,035
Use of Violence	0,357

Table 3.4.42: Unstandardized Regression Weights for Figure 3.37

			Estimate	S.E.	C.R.	P
Policy Satisfaction	<---	Lived Food Scarcity	-0,216	0,054	-4,028	***
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,43	0,101	-4,251	***
PARTISANSHIP (ODM-K)	<---	Lived Food Scarcity	-0,005	0,05	-0,102	0,919
Attitude towards Violence	<---	Policy Satisfaction	0,218	0,066	3,32	***
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,134	0,038	-3,522	***
State Legitimacy	<---	Policy Satisfaction	-0,292	0,093	-3,15	0,002
Attitude towards Violence	<---	PARTISANSHIP (ODM-K)	-0,243	0,118	-2,068	0,039
Use of Violence	<---	State Legitimacy	-0,234	0,05	-4,679	***
Use of Violence	<---	Policy Satisfaction	0,522	0,082	6,356	***
Use of Violence	<---	Attitude towards Violence	0,255	0,074	3,419	***
Use of Violence	<---	Perceived Fairness of Leaders	-0,194	0,047	-4,117	***
Use of Violence	<---	PARTISANSHIP (ODM-K)	0,17	0,146	1,168	0,243

Table 3.4.43: Standardized Regression Weights for Figure 3.37

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,238
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,25
PARTISANSHIP (ODM-K)	<---	Lived Food Scarcity	-0,008
Attitude towards Violence	<---	Policy Satisfaction	0,196
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,208
State Legitimacy	<---	Policy Satisfaction	-0,188

Attitude towards Violence	<---	PARTISANSHIP (ODM-K)	-0,152
Use of Violence	<---	State Legitimacy	-0,231
Use of Violence	<---	Policy Satisfaction	0,331
Use of Violence	<---	Attitude towards Violence	0,179
Use of Violence	<---	Perceived Fairness of Leaders	-0,211
Use of Violence	<---	PARTISANSHIP (ODM-K)	0,075

Table 3.4.44: Squared Multiple Correlations for Figure 3.37

	Estimate
Policy Satisfaction	0,056
PARTISANSHIP (ODM-K)	0
Perceived Fairness of Leaders	0,063
Attitude towards Violence	0,125
State Legitimacy	0,035
Use of Violence	0,363

Table 3.4.45: Unstandardized Regression Weights for Figure 3.38

			Estimate	S.E.	C.R.	P
Policy Satisfaction	<---	Lived Food Scarcity	-0,216	0,054	-4,028	***
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,43	0,101	-4,251	***
Attitude towards Violence	<---	Policy Satisfaction	0,202	0,066	3,067	0,002
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,137	0,038	-3,564	***
State Legitimacy	<---	Policy Satisfaction	-0,292	0,093	-3,15	0,002
Attitude towards Violence	<---	PARTISANSHIP (PNU)	-0,115	0,112	-1,03	0,303
Use of Violence	<---	State Legitimacy	-0,236	0,05	-4,709	***
Use of Violence	<---	Policy Satisfaction	0,532	0,082	6,509	***
Use of Violence	<---	Attitude towards Violence	0,227	0,073	3,097	0,002
Use of Violence	<---	Perceived Fairness of Leaders	-0,196	0,047	-4,159	***
Use of Violence	<---	PARTISANSHIP (PNU)	-0,168	0,135	-1,247	0,212

Table 3.4.46: Standardized Regression Weights for Figure 3.39

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,238
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,25
Attitude towards Violence	<---	Policy Satisfaction	0,182
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,212
State Legitimacy	<---	Policy Satisfaction	-0,188
Attitude towards Violence	<---	PARTISANSHIP (PNU)	-0,077

Use of Violence	<---	State Legitimacy	-0,233
Use of Violence	<---	Policy Satisfaction	0,338
Use of Violence	<---	Attitude towards Violence	0,159
Use of Violence	<---	Perceived Fairness of Leaders	-0,213
Use of Violence	<---	PARTISANSHIP (PNU)	-0,079

Table 3.4.47: Squared Multiple Correlations for Figure 3.39

	Estimate
Policy Satisfaction	0,056
PARTISANSHIP (PNU)	0
Perceived Fairness of Leaders	0,063
Attitude towards Violence	0,104
State Legitimacy	0,035
Use of Violence	0,364

Table 3.4.48: Comparison of Unstandardized Regression Weights for Figures 3.46 and 3.47

			Same		Different		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,075	0,005	-0,095	0	-0,653
Perceived Fairness of Leaders	<---	Lived Food Scarcity	0,047	0,436	-0,066	0,017	-1,696*
Perceived Fairness of Leaders	<---	Policy Satisfaction	0,047	0,645	-0,325	0	-3,358***
Trust in Local Council	<---	Policy Satisfaction	0,542	0	0,206	0	-3,709***
Trust in Local Council	<---	Perceived Fairness of Leaders	-0,036	0,326	0,008	0,71	1,037
Trust in National Parliament	<---	Trust in Local Council	0,409	0	0,356	0	-1,094
Trust in National Parliament	<---	Policy Satisfaction	0,375	0	0,127	0	-2,828***
Trust in National Parliament	<---	Perceived Fairness of Leaders	0,086	0,013	0,034	0,079	-1,307
Trust in President (Kibaki)	<---	Trust in Local Council	0,124	0,01	0,241	0	2,202**
Trust in President (Kibaki)	<---	Trust in National Parliament	0,186	0	0,364	0	3,428***
Trust in President (Kibaki)	<---	Policy Satisfaction	0,004	0,966	0,03	0,391	0,283
Trust in President (Kibaki)	<---	Perceived Fairness of Leaders	-0,081	0,025	-0,037	0,051	1,087
State Legitimacy	<---	Policy Satisfaction	0,19	0,048	-0,082	0,02	-2,66***
State Legitimacy	<---	Trust in President (Kibaki)	0,005	0,924	0,052	0,03	0,825
State Legitimacy	<---	Trust in National Parliament	0,136	0,011	0,076	0,002	-1,016
State Legitimacy	<---	Trust in Local Council	-0,028	0,606	0,054	0,022	1,38
Attitude towards Violence	<---	Policy Satisfaction	-0,019	0,832	0,138	0	1,656*
Attitude towards Violence	<---	Trust in Local Council	-0,039	0,443	0,006	0,77	0,819
Attitude towards Violence	<---	Trust in National Parliament	-0,072	0,152	-0,028	0,204	0,789
Attitude towards Violence	<---	Trust in President (Kibaki)	0,03	0,526	-0,026	0,231	-1,073
Attitude towards Violence	<---	Lived Food Scarcity	0,063	0,198	-0,023	0,264	-1,621
Attitude towards Violence	<---	State Legitimacy	-0,012	0,773	-0,072	0	-1,278
Attitude towards Violence	<---	Perceived Fairness of Leaders	0,022	0,562	-0,065	0	-2,097**
Use of Violence	<---	Lived Food Scarcity	0,012	0,346	0,071	0	3,153***
Use of Violence	<---	State Legitimacy	0	0,973	-0,081	0	-4,695***

Use of Violence	<---	Policy Satisfaction	0,02	0,344	0,162	0	4,656***
Use of Violence	<---	Perceived Fairness of Leaders	0,009	0,338	-0,064	0	-4,89***
Use of Violence	<---	Attitude towards Violence	0,016	0,162	0,062	0	2,404**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.4.49: Standardized Regression Weights for Figure 3.46

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,127
Perceived Fairness of Leaders	<---	Lived Food Scarcity	0,036
Perceived Fairness of Leaders	<---	Policy Satisfaction	0,021
Trust in Local Council	<---	Policy Satisfaction	0,288
Trust in Local Council	<---	Perceived Fairness of Leaders	-0,043
Trust in National Parliament	<---	Trust in Local Council	0,395
Trust in National Parliament	<---	Policy Satisfaction	0,193
Trust in National Parliament	<---	Perceived Fairness of Leaders	0,098
Trust in President (Kibaki)	<---	Trust in Local Council	0,128
Trust in President (Kibaki)	<---	Trust in National Parliament	0,199
Trust in President (Kibaki)	<---	Policy Satisfaction	0,002
Trust in President (Kibaki)	<---	Perceived Fairness of Leaders	-0,099
State Legitimacy	<---	Policy Satisfaction	0,095
State Legitimacy	<---	Trust in President (Kibaki)	0,004
State Legitimacy	<---	Trust in National Parliament	0,132
State Legitimacy	<---	Trust in Local Council	-0,027
Attitude towards Violence	<---	Policy Satisfaction	-0,01
Attitude towards Violence	<---	Trust in Local Council	-0,04
Attitude towards Violence	<---	Trust in National Parliament	-0,076
Attitude towards Violence	<---	Trust in President (Kibaki)	0,03
Attitude towards Violence	<---	Lived Food Scarcity	0,059
Attitude towards Violence	<---	State Legitimacy	-0,013
Attitude towards Violence	<---	Perceived Fairness of Leaders	0,027
Use of Violence	<---	Lived Food Scarcity	0,043
Use of Violence	<---	State Legitimacy	0,002
Use of Violence	<---	Policy Satisfaction	0,044
Use of Violence	<---	Perceived Fairness of Leaders	0,044
Use of Violence	<---	Attitude towards Violence	0,064

Table 3.4.50: Standardized Regression Weights for Figure 3.47

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,144
Perceived Fairness of Leaders	<---	Lived Food Scarcity	-0,055
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,178
Trust in Local Council	<---	Policy Satisfaction	0,127
Trust in Local Council	<---	Perceived Fairness of Leaders	0,009
Trust in National Parliament	<---	Trust in Local Council	0,359
Trust in National Parliament	<---	Policy Satisfaction	0,078
Trust in National Parliament	<---	Perceived Fairness of Leaders	0,038
Trust in President (Kibaki)	<---	Trust in Local Council	0,234
Trust in President (Kibaki)	<---	Trust in National Parliament	0,352
Trust in President (Kibaki)	<---	Policy Satisfaction	0,018
Trust in President (Kibaki)	<---	Perceived Fairness of Leaders	-0,04
State Legitimacy	<---	Policy Satisfaction	-0,054
State Legitimacy	<---	Trust in President (Kibaki)	0,057
State Legitimacy	<---	Trust in National Parliament	0,081
State Legitimacy	<---	Trust in Local Council	0,058
Attitude towards Violence	<---	Policy Satisfaction	0,1
Attitude towards Violence	<---	Trust in Local Council	0,007
Attitude towards Violence	<---	Trust in National Parliament	-0,033
Attitude towards Violence	<---	Trust in President (Kibaki)	-0,031
Attitude towards Violence	<---	Lived Food Scarcity	-0,026
Attitude towards Violence	<---	State Legitimacy	-0,079
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,086
Use of Violence	<---	Lived Food Scarcity	0,114
Use of Violence	<---	State Legitimacy	-0,131
Use of Violence	<---	Policy Satisfaction	0,172
Use of Violence	<---	Perceived Fairness of Leaders	-0,124
Use of Violence	<---	Attitude towards Violence	0,091

Table 3.4.51: Squared Multiple Correlations for Figure 3.46

	Estimate
Policy Satisfaction	0,016
Perceived Fairness of Leaders	0,002
Trust in Local Council	0,085
Trust in National Parliament	0,245
Trust in President (Kibaki)	0,086

State Legitimacy	0,031
Attitude towards Violence	0,015
Use of Violence	0,01

Table 3.4.52: Squared Multiple Correlations for Figure 3.47

	Estimate
Policy Satisfaction	0,021
Perceived Fairness of Leaders	0,032
Trust in Local Council	0,016
Trust in National Parliament	0,142
Trust in President (Kibaki)	0,244
State Legitimacy	0,024
Attitude towards Violence	0,031
Use of Violence	0,095

Table 3.4.53: Comparison of Unstandardized Regression Weights for Figures 3.46 and 3.47 without Eastern Region

			Same		Different		
			Estimate	P	Estimate	P	z-score
Policy Satisfaction	<---	Lived Food Scarcity	-0,073	0,006	-0,083	0	-0,295
Perceived Fairness of Leaders	<---	Lived Food Scarcity	0,046	0,447	-0,015	0,633	-0,894
Perceived Fairness of Leaders	<---	Policy Satisfaction	0,037	0,721	-0,277	0	-2,777***
Trust in Local Council	<---	Policy Satisfaction	0,553	0	0,238	0	-3,389***
Trust in Local Council	<---	Perceived Fairness of Leaders	-0,03	0,408	0,007	0,755	0,863
Trust in National Parliament	<---	Trust in Local Council	0,411	0	0,38	0	-0,632
Trust in National Parliament	<---	Policy Satisfaction	0,366	0	0,124	0,002	-2,669***
Trust in National Parliament	<---	Perceived Fairness of Leaders	0,085	0,015	0,049	0,026	-0,867
Trust in President (Kibaki)	<---	Trust in Local Council	0,12	0,013	0,258	0	2,545**
Trust in President (Kibaki)	<---	Trust in National Parliament	0,192	0	0,385	0	3,649***
Trust in President (Kibaki)	<---	Policy Satisfaction	0,008	0,922	0,083	0,031	0,801
Trust in President (Kibaki)	<---	Perceived Fairness of Leaders	-0,081	0,024	-0,025	0,232	1,345
State Legitimacy	<---	Policy Satisfaction	0,186	0,055	-0,043	0,258	-2,198**
State Legitimacy	<---	Trust in President (Kibaki)	0,005	0,919	0,089	0	1,452
State Legitimacy	<---	Trust in National Parliament	0,135	0,013	0,022	0,406	-1,881*
State Legitimacy	<---	Trust in Local Council	-0,025	0,648	0,09	0	1,889*
Attitude towards Violence	<---	Policy Satisfaction	-0,014	0,876	0,136	0	1,55
Attitude towards Violence	<---	Trust in Local Council	-0,041	0,42	-0,003	0,889	0,669
Attitude towards Violence	<---	Trust in National Parliament	-0,074	0,138	-0,02	0,426	0,972
Attitude towards Violence	<---	Trust in President (Kibaki)	0,034	0,479	-0,019	0,452	-0,974
Attitude towards Violence	<---	Lived Food Scarcity	0,068	0,167	-0,041	0,09	-1,982**

Attitude towards Violence	<---	State Legitimacy	-0,011	0,799	-0,079	0,001	-1,413
Attitude towards Violence	<---	Perceived Fairness of Leaders	0,024	0,521	-0,053	0,008	-1,807*
Use of Violence	<---	Lived Food Scarcity	0,012	0,346	0,023	0,039	0,636
Use of Violence	<---	State Legitimacy	0	0,966	-0,009	0,43	-0,597
Use of Violence	<---	Policy Satisfaction	0,021	0,336	0,062	0	1,505
Use of Violence	<---	Perceived Fairness of Leaders	0,009	0,326	-0,013	0,168	-1,665*
Use of Violence	<---	Attitude towards Violence	0,016	0,168	0,035	0,003	1,135

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 3.4.54: Standardized Regression Weights for Figure 3.46 without Eastern Region

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,124
Perceived Fairness of Leaders	<---	Lived Food Scarcity	0,035
Perceived Fairness of Leaders	<---	Policy Satisfaction	0,016
Trust in Local Council	<---	Policy Satisfaction	0,294
Trust in Local Council	<---	Perceived Fairness of Leaders	-0,036
Trust in National Parliament	<---	Trust in Local Council	0,397
Trust in National Parliament	<---	Policy Satisfaction	0,188
Trust in National Parliament	<---	Perceived Fairness of Leaders	0,097
Trust in President (Kibaki)	<---	Trust in Local Council	0,124
Trust in President (Kibaki)	<---	Trust in National Parliament	0,205
Trust in President (Kibaki)	<---	Policy Satisfaction	0,005
Trust in President (Kibaki)	<---	Perceived Fairness of Leaders	-0,099
State Legitimacy	<---	Policy Satisfaction	0,092
State Legitimacy	<---	Trust in President (Kibaki)	0,005
State Legitimacy	<---	Trust in National Parliament	0,13
State Legitimacy	<---	Trust in Local Council	-0,024
Attitude towards Violence	<---	Policy Satisfaction	-0,008
Attitude towards Violence	<---	Trust in Local Council	-0,042
Attitude towards Violence	<---	Trust in National Parliament	-0,079
Attitude towards Violence	<---	Trust in President (Kibaki)	0,034
Attitude towards Violence	<---	Lived Food Scarcity	0,063
Attitude towards Violence	<---	State Legitimacy	-0,012
Attitude towards Violence	<---	Perceived Fairness of Leaders	0,03
Use of Violence	<---	Lived Food Scarcity	0,043
Use of Violence	<---	State Legitimacy	0,002
Use of Violence	<---	Policy Satisfaction	0,045
Use of Violence	<---	Perceived Fairness of Leaders	0,045
Use of Violence	<---	Attitude towards Violence	0,063

Table 3.4.55: Standardized Regression Weights for Figure 3.47 without Eastern Region

			Estimate
Policy Satisfaction	<---	Lived Food Scarcity	-0,126
Perceived Fairness of Leaders	<---	Lived Food Scarcity	-0,012
Perceived Fairness of Leaders	<---	Policy Satisfaction	-0,152
Trust in Local Council	<---	Policy Satisfaction	0,139
Trust in Local Council	<---	Perceived Fairness of Leaders	0,008
Trust in National Parliament	<---	Trust in Local Council	0,381
Trust in National Parliament	<---	Policy Satisfaction	0,073
Trust in National Parliament	<---	Perceived Fairness of Leaders	0,053
Trust in President (Kibaki)	<---	Trust in Local Council	0,252
Trust in President (Kibaki)	<---	Trust in National Parliament	0,375
Trust in President (Kibaki)	<---	Policy Satisfaction	0,048
Trust in President (Kibaki)	<---	Perceived Fairness of Leaders	-0,026
State Legitimacy	<---	Policy Satisfaction	-0,029
State Legitimacy	<---	Trust in President (Kibaki)	0,104
State Legitimacy	<---	Trust in National Parliament	0,025
State Legitimacy	<---	Trust in Local Council	0,102
Attitude towards Violence	<---	Policy Satisfaction	0,095
Attitude towards Violence	<---	Trust in Local Council	-0,004
Attitude towards Violence	<---	Trust in National Parliament	-0,024
Attitude towards Violence	<---	Trust in President (Kibaki)	-0,023
Attitude towards Violence	<---	Lived Food Scarcity	-0,043
Attitude towards Violence	<---	State Legitimacy	-0,083
Attitude towards Violence	<---	Perceived Fairness of Leaders	-0,067
Use of Violence	<---	Lived Food Scarcity	0,053
Use of Violence	<---	State Legitimacy	-0,02
Use of Violence	<---	Policy Satisfaction	0,095
Use of Violence	<---	Perceived Fairness of Leaders	-0,035
Use of Violence	<---	Attitude towards Violence	0,076

Table 3.4.56: Squared Multiple Correlations for Figure 3.46 without Eastern Region

	Estimate
Policy Satisfaction	0,015
Perceived Fairness of Leaders	0,001
Trust in Local Council	0,088
Trust in National Parliament	0,245
Trust in President (Kibaki)	0,088
State Legitimacy	0,03
Attitude towards Violence	0,016
Use of Violence	0,01

Table 3.4.57: Squared Multiple Correlations for Figure 3.47 without Eastern Region

	Estimate
Policy Satisfaction	0,016
Perceived Fairness of Leaders	0,023
Trust in Local Council	0,019
Trust in National Parliament	0,159
Trust in President (Kibaki)	0,288
State Legitimacy	0,034
Attitude towards Violence	0,027
Use of Violence	0,021